DO CENTRALIZATION AND CONSOLIDATION OF STAFF FUNCTIONS IMPROVE ARMY SPECIAL OPERATIONS FORCES' DECISION MAKING?

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE
General Studies

by

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Information technologies and the RCP obviate need for separate and elaborate staff facilities. Data was gathered from observations during two Force XXI AWEs, two Prairie Warrior Exercises, and one JTFEX and produced insights and the final conclusions based on these observations. Consolidation of battle staff personnel and combat functions facilitates horizontal and vertical synchronization and coordination of the staff increasing the probability that the whole of the digital TOC will be greater than the sum of its members.

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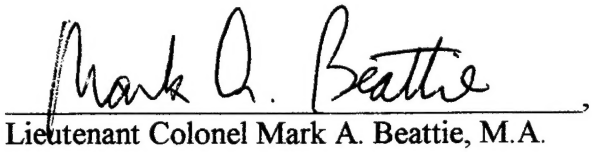
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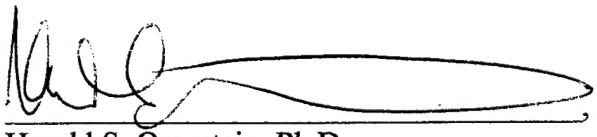
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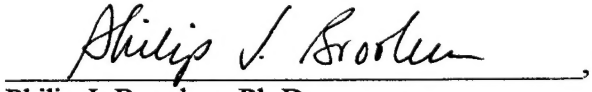
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ABSTRACT

Do Centralization and Consolidation of Staff Functions Improve Army Special Operations Forces' Decision Making, by MAJ Sean P. Swindell, USA, 147 pages.

This thesis examines insights gained over two AWEs, two Prairie Warrior exercises, and one JTFEX into a checklist of guidelines to organize ARSOF digitized TOCs as the Army continues its road to a fully operational Army Battle Command System (ABCS). The goal of this research has been to develop the optimum ARSOF digitized TOC. This study determined that with increasing levels of digitization and speed of information, guidelines must be observed in the layout of the TOC to filter information for the commander and establish standardization of critical functions. The physical layout of the TOC contributes to how efficiently messages and information are passed from one staff section to another and how easily section and battle staff personnel communicate with one another.

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ABBREVIATIONS

APS	Annotated Planning System
AAN	Army After Next
AAR	After-Action Review
ABCS	Army Battle Command System
AC	Active Component
ACE	Analysis and Control Element
ACT	Analytical Control Team
AFATDS	Advanced Field Artillery Tactical Data System
AMDPCS	Air and Missile Defense Planning and Control System
AOR	Area of Responsibility
ARSO	Army Special Operations Systems
ARSOF	Army Special Operations Systems Force
ASAS	All-Source Analysis System
ATCCS	Army Tactical Command and Control System
AWE	Advanced Warfighting Experiment
BCTP	Battle Command Training Program
BDA	Battle Damage Assessment
BOS	Battlefield Operating System
C2	Command and Control
C3	Command, Control, and Communications
C4I	Command, Control, Communications, Computers, and Intelligence

CALL	Center for Army Lessons Learned
CCIR	Commander's Critical Information Requirements
CTC	Combat Training Centers
COA	Course of Action
CONPLAN	Contingency Plan
CONUS	Continental United States
CTC	Combat Training Center
E-mail	Electronic Mail
EXFOR	Experimental Force
FBCB2	Force XXI Battle Command Brigade and Below
FRAGO	Fragmentary Order
FFIR	Friendly Forces Information Requirements
FOB	Forward Operating Base
GCCS	Global Command and Control System
GCCS-A	Global Command and Control System-Army
HUINT	Human Intelligence
IPB	Intelligence Preparation of the Battlefield
ID	Information Dominance
IM	Information Management
IO	Information Operations
IW	Information Warfare
JDISS	Joint Deployable Intelligence Support System
JRTC	Joint Readiness Training Center

JSOTF	Joint Special Operations Task Force
JTF	Joint Task Force
JSTARS	Joint Surveillance Targeting Acquisition Radar System
JV	Joint Vision
LVRS	Lightweight Video Reconnaissance System
MCS	Maneuver Control System
MDMP	Military Decision-Making Process
NTC	National Training Center
OODA	Observe, Orient, Decide, and Act
OPCEN	Operations Center
OPCON	Operational Control
PAM	Pamphlet
PSYOP	Psychological Operations
RC	Reserve Component
REF	Regional Engagement Force
SFG(A)	Special Forces Group (A)
SFOB	Special Forces Operating Base
SIGCENT	Signal Center
SPTCENT	Support Center
TOC	Tactical Operations Center
TRADOC	Training and Doctrine Command
USASOC	United States Army Special Operations Command
WAN	Wide Area Network

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CHAPTER 1

INTRODUCTION

Purpose

This study will attempt to determine if consolidation and centralization of staff functions at the Special Forces group and battalion level improves commanders' decision making. The research will determine how commanders employ interactive joint and service command, control, communications, computer, and intelligence (C4I) systems to improve decision making. Centralization or consolidation is the reorganization and the relocation of the battle staff into a tactical operations center (TOC) and/or the Battlestar. Additionally, the research will examine how improved situational understanding affects decision making. This study will document how commanders successfully apply Global Command and Control System-Army (GCCS-A), Maneuver Control System (MCS), The All-Source Analysis Systems (ASAS), and nonhierarchical dissemination of information to improve battle command. Finally, the research will examine the organizational structures' capabilities to promote efficiency and staff coordination.

The Problem

As information management (IM) takes on increasing importance in meeting the challenges of global visibility and military necessity, Information Age technology advances will significantly impact the entire spectrum of war. Advances in information operations allow nonhierarchical dissemination of information. Nonhierarchical dissemination of information is defined as disseminating information to whoever requires and needs it (altering if not replacing the traditional command structure). Targeting and other critical data at all levels, operating environment diversity, equipment sophistication,

and increased tempo will place increased demands on commanders and their staffs. Enormous amounts of data must be filtered and quickly interpreted into intelligence and knowledge. Decision making must become increasingly dynamic and multidimensional to match the pace at which battlefield geometry changes. The Army must leverage technology to wield exceptional battlefield visualization and situational understanding.

The Battlestar is an innovative concept for systematic consolidation, manipulation, and presentation of decision-making data. The primary purpose of the Battlestar Concept is to give the commander and key staff and personnel a focal point at which to direct critical information. The Battlestar Concept increases situational understanding, staff integration, and information dissemination. It involves near real-time collection, analysis, and response to mission planning and command and control (C2) data. The Battlestar merges Army Battle Command Systems (ABCS) with joint C2 global command and control system (GCCS). It allows the Army Special Operations Forces (ARSOF) to harness satellite links to create a C4I wide area network (WAN) connecting with forward-operating bases (FOBs), the Joint Special Operations Task Force (JSOTF), and the Joint Task Force (JTF). The Battlestar concept breaks the traditional Armyu Special Operations Task Force (ARSOTF) doctrine paradigm of separately aligned functional centers by consolidating key personnel in one area. The Battlestar in effect creates one synergistic "Fusion Cell." This research will determine how to exploit interactive joint and service C4I systems and enhance decision making of the ARSOTF commander.

Why This Study

Developments in information technology are transforming how nations, organizations, and people interact. The rapid nonhierarchical dissemination of information challenges the significance of traditional organizational structures and management principles. The military models of nonhierarchical dissemination of information are not fully understood yet. The Training and Doctrine Command (TRADOC) Pamphlet 525-25, *Force XXI Operations*, identifies two areas that information technology and information management will greatly influence:

> One evolutionary, the other revolutionary; one we understand, one we are just beginning to experiment with. Together, they represent what has been described as the information war--a war that has been fought by commanders throughout history.
>
> (1) First, future information technology will greatly increase the volume, accuracy, and speed of battlefield information available to commanders.
> (2) Second, future technology will require the Army to reassess time-honored means of battle command--recognize that in the future, military operations will involve the co-existence of both hierarchical and internetted, non-hierarchical process. Orders will be less physically imposed than knowledge-imposed. Combinations of centralized and decentralized means will result in military units being able to decide and act at a tempo enemies cannot simply equal.[1]

Army Vision 2010 identifies six patterns of operations: gaining information superiority, projecting the force, protecting the force, shaping the battlespace, decisive operations, and sustaining the force. "By identifying concepts, technologies, and systems that support the patterns of operations, AV 2010 provides the start point for experimentation necessary to build a 21st Century Army."[2] The Army is experiencing a Revolution in Military Affairs with the enhancement of war-fighting capabilities enabled by the utilization of information technologies. "By adding high-speed computers and communications to weapons systems and other military equipment, it is possible to

provide all friendly units with an almost-continuously updated picture of where they are, where the enemy is, and where other friendly units are located."[3] This increased situational understanding allows the commander to focus his combat power against enemy systems and units, increases survivability, and sets a tempo the enemy cannot match. Additionally, increased situational understanding allows the commander to focus his logistics and resources where and when they are needed.

The Army developed Force XXI as the process to lead the Army into the twenty-first century. TRADOC PAM 525-5, *Force XXI Operations*, defines the future battlefield enhanced by information technologies: "Looking at conventional and high-intensity warfare, recent military-technical developments point toward an increase in the depth, breadth, and height of the battlefield."[4] Force XXI initiatives hope to expand and accelerate decision making through improved situational understanding and nonhierarchical dissemination of information. The Army plans to achieve improved situational understanding through the digitized family of the Army battle command systems (ABCSs). The goal of ABCS is to provide the commander near real-time information on friendly unit positions and status and a current enemy picture and to deliver them via digital communications and computer networks. This near real-time situational understanding should allow commanders to make faster and improved decisions, to better control units, to enhance synchronization of efforts, and to achieve decisive victory.

Today's operating environment, equipment sophistication, and increased operational tempo have increased demands on commanders and their staffs. Enormous amounts of data must be filtered and quickly interpreted into knowledge and intelligence.

With the proper application of technology, staff integration, and new approaches to information dissemination, commanders should be able make more decisions in a shorter amount of time, and the decisions should be more informed when supported by interactive joint and service C4I systems. This research examines how commanders employ interactive joint and service C4I systems to improve decision making. "What differentiates future battle command from the timeless challenges is the scope, intensity, and tempo of contemporary and future operations brought on by the lethality, precision, and range of modern weapons coupled with the timeliness and accuracy of information provided by information age systems and sensors."[5] Joint and service C4I systems should enhance and improve battle command today and in the future. This study documents how commanders successfully apply global command and control system (GCCS), MCS, ASAS, and nonhierarchical dissemination of information to improve battle command.

Importance of the Study

The Army is executing a plan for achieving full spectrum dominance in the twenty-first century as outlined in Army Vision (AV) 2010. The Army developed the Army Modernization Plan to achieve full-spectrum dominance based on patterns of operations outlined in AV 2010. There are five major goals of Army modernization:

1. Digitize the Army
2. Maintain combat overmatch
3. Sustain essential research and development and focus science and technology to leap ahead technologies
4. Recapitalize the force

5. Integrate active component (AC) and Reserve component (RC)

The Army's number one modernization goal is to digitize the Army to achieve information superiority.

The Army Modernization Plan has a two-stage evolution. The first stage is Force XXI. Force XXI is the near-term digitization of the Army to achieve information superiority. The second step is Army After Next (AAN). The AAN will merge information superiority capabilities developed during Force XXI with lighter, more-agile systems that can be developed.

Background

Technology is advancing at a very rapid rate. The future is uncertain and unpredictable. Information Age advances are eliminating the stovepiping of rigid hierarchical dissemination of information and allowing for nonhierarchical dissemination of information both vertically and horizontally. Joint Vision (JV) 2010 provides the basic foundation and principles for how America's armed forces will fight in the twenty-first century, that is, the Information-Age.

The bedrock foundation of JV 2010 is built on two underlying principles: the innovation of people and leveraging of technology. "The JV 2010 vision of the future embodies the improved intelligence and command and control available in the Information Age."[6] Additionally, JV 2010 develops four operational concepts: dominant maneuver, precision engagement, full-dimensional protection, and focused logistics. JV 2010 recognizes the importance of Information Age advances on decision making and the integration of systems. Decision making in the twenty-first century will be dynamic and multidimensional.

Information Age technologies will continue to improve battlefield visualization and situational understanding, which, coupled with the commander's judgment, intuition, and experience, will lead to improved understanding (i.e., the art of command). Technology has increased the commander's operational framework. Commanders must redefine their battle command in the twenty-first century. Staffs must be able to process mountains of data, analyze them, and distribute them horizontally and vertically in the twenty-first century. Commanders and units that understand the Common Operating Environment (COE), integrate and harness technology, and in a timely fashion disseminate information vertically and horizontally will gain dominant battlespace awareness in the twenty-first century.

In accordance with JV 2010, the Army developed AV 2010 and Force XXI to redesign the Army based on Information Age advances in meeting the Army needs of the twenty-first century. Force XXI ties together many new information systems to provide real-time situational understanding and information superiority across the Army. Based on the guidance and direction of JV 2010, AV 2010, and Force XXI, United States Army Special Operations Command (USASOC) developed ARSOF Vision 2010. ARSOF Vision 2010 defines a values based organization composed of personnel who are: "experienced, self-reliant warrior-diplomats; an integral part of the joint team; a decisive factor in crisis resolution; and persuasive in peace."[7]

ARSOF Vision 2010 defines ARSOF Vision and roles in the future. The concept identifies three core, mutually supporting ARSOF roles in the future: "Global Scouts, Coalition Enablers, and Small, Mature Lethal Forces."[8]

Global scouts are forward deployed maintaining an overseas presence for the US everyday. They acquire and provide human intelligence (HUMINT), ground truth, and input in areas in which United States interests exist, but where no other assets are located for geographic commanders in chief (CINCs), joint task force (JTF) commanders, component commanders, and or US ambassadors. This forward-deployed presence provides early warning and detection of potential threats and or opportunities to exploit. Additionally, global scouts have the capability to observe and interpret conditions, attitudes, and actions, and provide HUMINT to commanders (geographic CINCs, JTF commanders, component commanders, and or U.S. ambassadors). Global scouts establish and maintain overseas contacts, which will enable them to become increasingly effective and to perform as coalition enablers.

Coalition enablers, interacting with foreign forces, support peacetime deterrence. Effective employment of global scouts and coalition enablers allows the geographic CINC to influence his theater during peacetime engagement to avoid crisis or war and economize his war-fighting assets and capabilities. Should conflict become imminent, the geographic CINC and or JTF commander can use global scouts and or coalition enablers to shape the battlespace to set favorable conditions for the initial combat forces and actions. Additionally, coalition enablers are the bridges linking U.S. conventional forces, interagency activities, and host-nation forces into an effective coalition.

ARSOF Vision 2010 envisions global scouts and coalition enablers as small, mature, and lethal forces that can quickly deploy in peace, deterrence, and conflict situations. The national military strategy of engagement and support of peacetime theater engagement plans will require a discreet, small footprint. Small, mature, and lethal

forces will provide geographic CINCs and U.S. ambassadors a discreet forward presence capable of conducting decisive military operations. Global Scout and Coalition Enabler capabilities offer the geographic CINC, JTF commander, and or U.S.-ambassador forces capable of preventing conflicts and setting conditions by shaping the area of operations (AO). ARSOF Vision 2010 provides combatant commanders with forces, which have established military and interagency connections in any potential crisis area.

Finally, ARSOF Vision 2010 outlines ARSOF's contributions to the operational concepts outlined in Joint Vision 2010. ARSOF information operations will focus on capabilities to conduct offensive information operations and technologies to assist in understanding the operational environment. "High speed processors will fuse information from multiple sources, while rapid generation of high-fidelity databases will enable the commander to visualize current and future operations."[9] ARSOF dominant maneuver will utilize "situational understanding technology to synchronize ARSOF with land forces operational maneuver."[10] ARSOF precision engagement includes special reconnaissance for the JTF commander and or land component commander to locate and report high-payoff targets directly and in near real time to targeting systems, early intelligence to shape the battlefield, and real-time information about enemy forces. ARSOF Vision 2010 outlines a battlefield where "information technologies must facilitate sharing of real-time information among all Services, allies and coalition partners."[11]

Based on ARSOF Vision 2010, USASOC developed the Regional Engagement Concept: An Army Special Operations Forces Approach to Future Theater Military Operations. The Regional Engagement Force (REF) concept attempts to refine the

ARSOF vision of the future. The REF concept identified the ARSOF requirement to command and control conventional forces. The REF concept creates a new Army Special Operations Task Force (ARSOTF) task organization. The nucleus of the ARSOTF consists of a headquarters, three Special Forces (SF) battalions with embedded civil affairs capability, and a PSYOP capability. Other forces are under operational control (OPCON) of the ARSOTF commander, as required. All assigned and OPCON forces may be a mix of Active Component (AC) and Reserve Component (RC) forces, based on apportionment and mission analysis. Supporting conventional forces may include the following:

1. Aviation, both special operations aviation and general support aviation
2. Infantry capability
3. Engineer capability
4. Medical augmentation
5. Service and transportation augmentation
6. Military police augmentation
7. Signal augmentation
8. Military intelligence augmentation

The mission will drive the actual task organization of the ARSOTF and supporting forces. The REF concept creates an ARSOTF that must be capable of commanding and controlling SOF and conventional forces in the twenty-first century.

USASOC tasked the 7th Special Forces Group (Airborne) to organize and operate as an ARSOTF, demonstrate the ability of ARSOF to command and control conventional

forces, and experiment with technology. The REF concept was the genesis of the tasking to the 7th SFG(A). See Figure 1 (USASOC R3 and AWE goals).

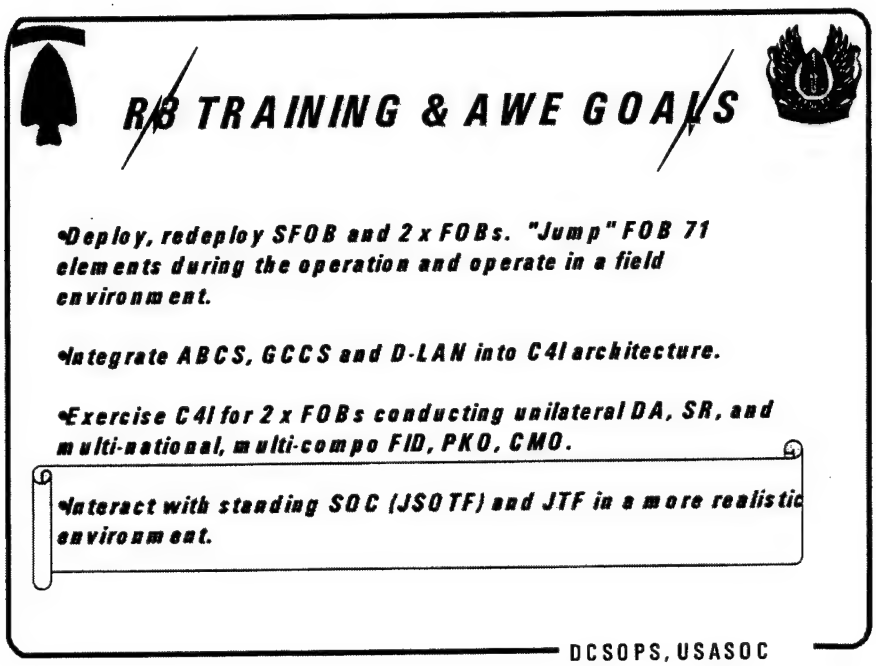

Figure 1. USASOC R3 and AWE Goals

The 7th SFG(A) developed the Battlestar Concept to redesign ARSOF C4I in the twenty-first century not only by leveraging Information Age advances, but also by designing a structure that could integrate Joint C4I systems, Army service C4I systems, and interagency activities, command and control/battle track conventional forces, and allow for the immediate and continuous cross referencing of information amongst all Battlefield Operating Systems. See figure 2 (Battlestar).

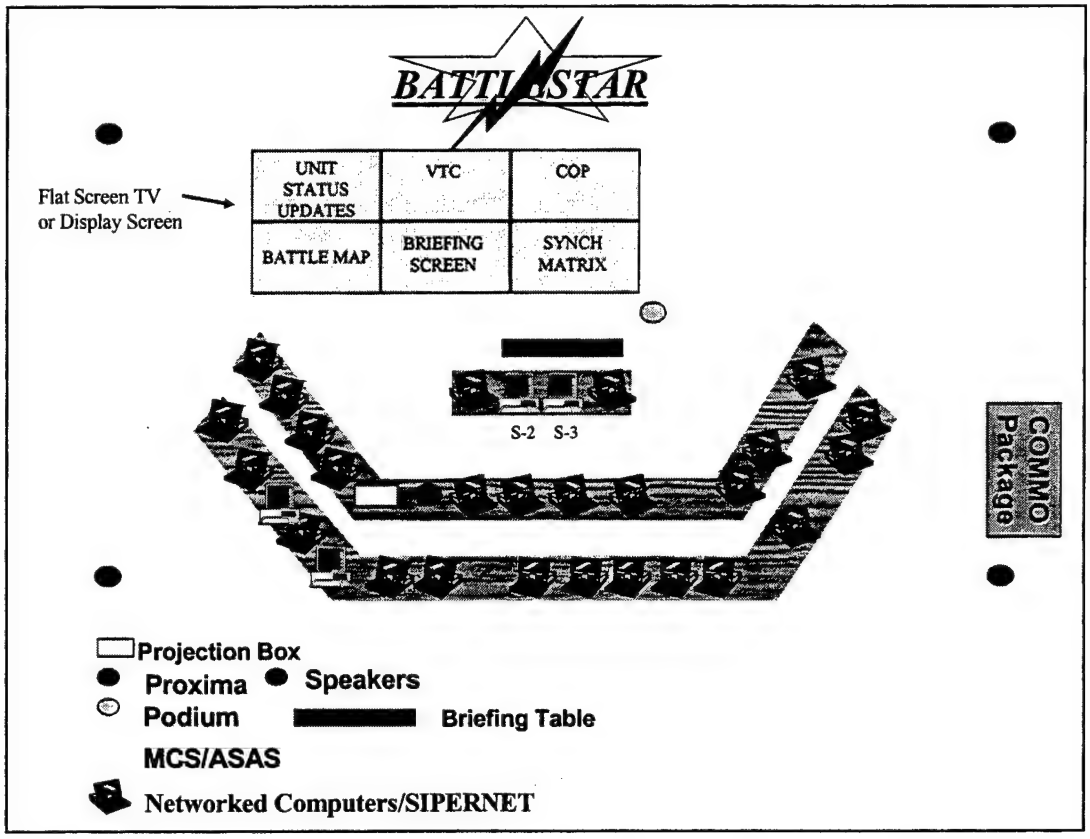

Figure 2. Battlestar

Assumptions

The researcher assumes joint and service C4I systems can enhance the commander's decision-making abilities and provide an environment for more timely decisions with positive outcomes. Lessons learned from the use of joint and service C4I systems are applicable to future conflicts. More uniform TOC layouts and standard operating procedures for internal operations facilitate standardization in training. The Army's officer and noncommissioned officers professional development systems are designed to place the best possible mix of educated experienced officers and senior noncommissioned officers into units. The Army does an exceptional job of preparing,

training, selecting, and assigning commanders, staff officers, and noncommissioned officers to units. Finally, the lessons learned from the Combat Training Centers (CTCs) Battle Command Training Programs (BCTPs) and Advanced War-Fighting Experiments (AWEs) and Prairie Warrior exercises have captured data that are required for this research.

The Research Question

Advances in information technologies, management, and distribution will facilitate the horizontal integration of staff functions and aid commanders in decision making. New command, control, and communications (C3) systems will allow nonhierarchical dissemination of intelligence, targeting, and other information at all levels. New ways of commanding and controlling forces will change traditional hierarchical command structures. New organizational structures must be developed.

The primary thesis question is: Do centralization and consolidation of staff functions improve Army Special Operations Forces' decision making?

The secondary questions are:

1. What systems and staff functions are required for centralization and consolidation, manipulation, and presentation of decision-making data in the twenty-first century?

2. Does the Battlestar improve information dissemination?

3. Does the Battlestar improve the commander's situational understanding?

4. Does the Battlestar improve battle command?

The proper employment and synchronization of staff functions are key to improving decision making on today's battlefield. How commanders organize their staffs

to apply these systems is the important issue. The first subordinate question focuses on determining the advantages joint and service C4I systems provide to the decision-making process. The decision making process is the starting point for all military activities. If joint and service C4I systems can be shown to provide advantages in decision making, then this will assist in achieving an operational tempo the enemy cannot match, thus contributing to the success of the military operation.

The second subordinate question addresses how information is disseminated to achieve information superiority on the battlefield. Better intelligence and information shared vertically and horizontally with all elements will allow commanders to maneuver and control forces with speed and timing to win. Commanders will be able to establish a tempo the enemy cannot match.

The third subordinate question focuses on the advantages of joint and service C4I systems to provide a common, relevant picture of the battlefield. A common operational picture at all levels enhances situational understanding, reducing the fog and friction of war.

The fourth subordinate question addresses battle command. Improved situational understanding, improved information dissemination, and a staff tailored to enhance decision making provide the commander the ability to synchronize his combat power at a higher level.

Definitions of Terms

All-Source Analysis System (ASAS). A family of systems that includes: all-source workstation, single-source workstation, compartmented automated messaging

processor, and Warlord remote workstation; and supports the commander's intelligence needs.

Battle Command: The art of battle decision making, leading, and motivating soldiers and their organizations into action to accomplish missions. Includes visualizing current state and future state, then formulating concepts of operations to get from one to the other at the least cost. Also includes assigning missions, prioritizing, and allocating resources, selecting the critical time and place to act, and knowing how and when to make adjustments during the fight.[12]

Battlefield Framework: An area of geographical and operational responsibility established by the commander; it provides a way to visualize how he will employ his forces; and it helps him relate his forces to one another and to the enemy in time, space, and purpose.[13]

Battlespace: Components determined by the maximum capabilities of a unit to acquire and dominate the enemy; includes areas beyond the area of operations; and it varies over time according to how the commander positions his assets.[14]

Battlestar: A command, control, and support base established and operated by a Special Forces group using organic and attached resources; the principal facility employed by the commander to control combat operations; it consists of those coordinating and special staff activities and representatives from supporting Army elements and other services that may be necessary to carry out operations; and location where the majority of planning, staff coordination, and monitoring of key events occurs. It is a fusion cell consolidating key personnel in one area and employs interactive joint and service C4I systems.

Command and Control: The exercise of authority and direction by a properly designated commander over assigned or attached forces in accomplishment of the mission; and C2 functions are performed through an arrangement of personnel, equipment, communications, computers, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.[15]

Common Operating Environment: An environment that provides a familiar look, touch, sound, and feel to the commander, no matter where the commander is deployed; information presentation and command and control, communication, computers, and intelligence systems interfaces are maintained consistently from platform to platform, enabling the commander to focus attention on the crisis at hand.[16]

Common Operational Picture: The aggregate of shared data on the disposition of friendly and enemy forces and neutrals.[17]

Information Age: The time period when social, cultural, and economic patterns will reflect the decentralized, nonhierarchical flow of information, contrast to the more centralized, hierarchical, social, cultural, and economic patterns that reflect the Industrial Age's mechanization of production systems.[18]

Information Superiority (ID): The degree of information superiority that allows the possessor to use information systems and capabilities to achieve an operational advantage in a conflict to control the situation in operations short of war, while denying those capabilities to the adversary.[19]

Situational Understanding: The ability to have accurate knowledge of your own and other friendly element locations, enemy locations, and neutral and noncombatant locations.[20]

Special Forces Operational Base: A command, control, and support base established and operated by a Special Forces Group using organic and attached resources; organized into and operational center (OPCEN), support center (SPTCEN), and signal center (SIGCEN); OPCEN is the functional activity that plans, coordinates, directs, and control operations in a designated AO; SPTCEN is the functional activity that provides combat service support to the base and deployed SOF; and SIGCEN installs, operates, and maintains secure reliable, long range communications between the base and its higher, adjacent, subordinate, supporting and supported headquarters, and deployed SOF.[21]

Tactical Operations Center: A unit's or subunit's headquarters where the commander and the staff perform their activities; the principal facility employed by the commander to control combat operations; it consists of those coordinating and special staff activities and representatives from supporting Army elements and other services that may be necessary to carry out operations; and the location where the majority of planning, staff coordination, and monitoring of key events occurs.[22]

Total Mission Awareness: The ability of commanders at all levels to consider everything that affects their operation.[23]

Scope and Delimitations

This research covers the period starting with 1995, the beginning of the Army's experiment with ABCS, to the present. It focuses on how information technologies

improve the decision-making process. This study's scope is Special Forces group and battalion levels. The Special Forces group and battalion level commands are the organizations that are staffed and equipped to plan, launch, sustain, and recover Special Operations Forces. Additionally, the Army is fielding ABCS down to Special Forces group and battalion headquarters only.

This thesis is limited to the Battlestar's ability to increase situational understanding, staff integration, decision making, and information dissemination. This thesis does not address the larger implications of JV 2010, ARSOF Vision 2010, the Regional Engagement Concept, and the Information Age advances on military operations. This study focuses on the application of interactive joint and service C4I systems and the centralization and consolidation of ARSOTF staff functions into decision making.

Furthermore, this thesis is an exploratory study designed to understand the issues related to TOC design for a digital ARSOTF. This thesis does not address the issues of experience levels of the participants, preexercise training, battle staff time together as a team, intensity of operational environment, or any additional factors that affect the overall performance of the TOC. This thesis assembles insights into the design issues, which need to be considered when laying out the physical arrangement and functioning of the TOC. This study focuses on synthesizing and critically evaluating the lessons learned of several separate digital exercises.

Limitations

There is only one authoritative work on the Battlestar Concept. There are numerous works on C4I, battle command, decision making, and information

dissemination. The limited number of sources of information on the actual Battlestar Concept is a limitation for this research as well as its rationale.

Research Methodology Projected

The researcher conducted retrospective research (research that relies on recall of past data or on previously recorded information) using After-Action Review (AAR) files from the Center for Army Lessons Learned (CALL) databases, lessons learned from Combat Training Center (CTC) rotations and Advanced Warfighting Experiments, Prairie Warrior exercises, Joint and Army C4I systems initiatives, battle staff training programs, and the TRADOC homepage for digitization.

The purpose of the retrospective research was to determine if centralization and consolidation of staff functions, combined with new technological advances, improve Army Special Operations Forces decision making. The research examines how commanders exploit interactive joint and service C4I systems to improve decision making. This study documents how commanders successfully apply Joint and Service C4I systems and nonhierarchical dissemination of information to improve battle command. Additionally, the research examines how enhanced situational understanding affects decision making. Finally, the research will examine organizational structures capabilities to promote efficiency and staff coordination.

The research is focused on three organizational structures: brigade and battalion tactical operations centers (TOCs); Special Forces Operational Bases (SFOB) and Forward Operating Bases (FOBs); and the Battlestar concept. The preceding organizational structures were chosen because current doctrine manuals provide a general overview of TOCs, SFOBs, and FOBs. However, current manuals provide little detail on

specific functions of the TOC. The following criteria will be used to compare the organizational structures:

1. Speed of decision making. Nonhierarchical dissemination of information or near real-time information.

2. Continuous operation(s). The ability to operate without interruption or without pausing. Planning, control, and tactical execution must proceed concurrently and without interruption.

3. Synchronization of staff functions. Consolidation of key personnel in one area, tailored to provide depth during decision making and continuity of operations.

4. Unity of effort. The structure must provide a mechanism for coherent management of multiple efforts and programs associated with ARSOTF operations. The structure must eliminate duplication and achieve a synergistic effect through synchronization of ARSOTF activities the JTF, JSOTF, and with each other and with the efforts of other government agencies (OGA), other nations, and nongovernment agencies (NGO).

The thesis research design consisted of six phases:

Phase I was Collection: During Phase I, research material on the three organizational structures, C4I, battle command, decision making, and information technology was collected.

Phase II was Review: Phase II consisted of the review of published works to gain the necessary foundation of knowledge of brigade and battalion TOC operations, SFOB and FOB operations, C4I, battle command, decision making, and information technology. Examples of the three organizational structures were extracted, focusing on speed of

decision making, ability to conduct continuous operation(s), synchronization of staff functions, maintenance of situational understanding, and unity of effort.

Phase III was Synthesis. Phase III amalgamated the various sources of information and the development of chapter 3, "Research Methodology." The research and data were organized into four areas: joint and service C4I systems, decision making, battle command, and TOC operations. Identifying the research methodology successfully focused the analysis process and began to shape chapter 4, "Analysis"

Phase IV was Analysis and Interpretation: Phase IV consisted of an analysis and interpretation of the thesis and completion of chapter 4. This included an analysis and an interpretation of designated organizational structures based on the following criteria: speed of decision making, ability to conduct continuous operation(s), synchronization of staff functions, maintenance of situational understanding, and unity of effort.

Phase V was Comparison and Determination: Three organizational structures' capabilities to increase situational understanding, integrate the staff, improve decision making, and disseminate information were compared and contrasted. The measures used to compare the three organizational structures were as follows: speed of decision making, ability to conduct continuous operation(s), synchronization of staff functions, and unity of effort. Upon completion of the comparison, the researcher defined the optimal digital TOC environment and principal findings required to operate the digital TOC in the twenty-first century. Additionally, the principal findings allowed the researcher to recommend the appropriate ARSOTF C4I organizational structure/model for the twenty-first century.

Phase VI was Reporting Research Results. Phase VI consisted of an oral thesis defense, completion of an academic oral comprehensive exam, and final production of the thesis.

Summary

This study attempts to determine if consolidation and centralization of staff functions at the group and battalion levels improve Special Forces commanders' decision making. The research determines how commanders employ interactive joint and service C4I systems to improve decision making. Additionally, the research examines how improved situational understanding affects decision making. This study documents how commanders can successfully apply Joint and Service C4I systems and nonhierarchical dissemination of information to improve battle command. Finally, the research examines the organizational structure or physical layout required to promote efficiency and staff coordination.

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[1]Army Training and Doctrine Command, TRADOC Pam 525-5, *Force XXI Operations* (Fort Monroe, VA: TRADOC, 1 August 1994), 4-5.

[2]Honorable Louis Caldera and General Dennis J. Reimer, United States Army Posture Statement FY 2000 (Washington, DC: Government Printing Press February 1999), 34.

[3]Ibid., 34.

[4]Army Training and Doctrine Command, TRADOC Pam 525-5, *Force XXI Operations* (Fort Monroe, VA: TRADOC, 1 August 1994), 2-7.

[5]Army Training and Doctrine Command, TRADOC Pam 525-200-1, *Battle Command Battle Dynamic Concept* (Fort Monroe, VA: TRADOC, 1 December 1994), 3-1.

[6]Office of Chairman of Joint Chiefs of Staff, *Joint Vision 2010 America's Military: Preparing for Tomorrow* (Washington, DC: Joint Chiefs of Staff, 1997), 1.

[7]US Army Special Operations Command, *Army Special Operations Forces Vision 2010* (Fort Bragg, NC , 7 April 1997), 1.

[8]US Army Special Operations Command, Army Special Operations Forces Vision 2010, 5.

[9]Ibid., 7.

[10]Ibid., 7.

[11]Ibid., 8.

[12]Headquarters, Department of the Army, FM 100-5, *Operations* (Washington, DC: USGPO, June 1993), G-1.

[13]Ibid., G-1.

[14]Ibid., G-1.

[15]Headquarters, Department of the Army, FM 100-6, *Information Operations* (Washington, DC: USGPO, August 1996), G-2.

[16]Ibid., G-3.

[17]Headquarters, Department of the Army, *Staff Leader's Guide for the Army Battle Command System* (Washington, DC: USGPO, 1994), 7-1.

[18]FM 100-6, G-7.

[19]Ibid., 1-9.

[20]Headquarters, Training and Doctrine Command, TRADOC PAM 525-200-3, *Concept for Information Operations* (Fort Monroe, Va., Dismounted Battlespace Lab), June 1994), G-9.

[21]Headquarters, Department of the Army, *Doctrine for Army Special Forces Operations,* Initial Draft (Washington, DC: USGPO, December 1998), 5-1.

[22]Headquarters, Department of the Army, United States Marine Corps, FM 101-5 and MCRP 5-2A, *Operational Terms and Graphics* (Washington, DC, 30 September 1997), 1-34.

[23]Headquarters, Training and Doctrine Command, TRADOC PAM 525-200-3, *Concept for Information Operations* (Fort Monroe, VA: Dismounted Battlespace Lab, June 1994), G-9.

CHAPTER 2

REVIEW OF LITERATURE

Historical Perspective

Knowledge of the situation is a concept commanders have attempted to understand and exploit throughout history. History has taught that intimate knowledge of the situation is the key to victory. Sun Tzu states that: "When you know both yourself and others you are never in danger, when you know yourself but not others you have half a chance of winning, and when you know neither yourself nor others you are in danger in every battle."[1] Twenty-five centuries ago, Sun Tzu was describing situational understanding. Improved situational understanding through information superiority is the key pillar of AV 2010 and the Army Modernization Plan. This research seeks to explore works that explain the application of interactive joint and service C4I systems, and consolidation and synchronization of staff functions to improve Army Special Operations Forces decision making.

The literary works used in this research vary from after-action reviews(AARs) of brigades and Special Forces operating bases (SFOBs) at combat training centers (CTCs) for digitized battle; articles published in professional journals; full-length studies about future wars; Army pamphlets on Force XXI operations, digitization, information operations, battlefield visualization, battle command and Force XXI intelligence operations; Center for Army Lessons Learned newsletters; to Initial Impression Reports on Operation Joint Endeavor, Rapid Force Projection Initiative, and Advanced Warfighter Experiment.

Current Situation

The end of the Cold War changed the familiar threat. This change has forced a corresponding shift in the US National Military Strategy (NMS). The old Cold War strategy featured forward-deployed military forces against a rival superpower. The current strategy features force projection from the Continental United States (CONUS) against an unknown, uncertain, and unstable threat. The NMS emphasizes joint and combined operations that require interoperability of information systems. The new force projection strategy and asymmetric threats of the future require new command and control systems and structures capitalizing on the latest advances that provide information whenever and wherever it is needed to improve decision making.

JV 2010 is the template for the Armed Forces. It anticipates the US will face a wide range of uncertain threats in the future. "JV 2010 predicts that joint and, where possible, combined operations will continue to be the most effective recipe for defeating threats in next century."[2] JV 2010 identifies four operational concepts of dominant maneuver, precision engagement, full-dimensional protection, and focused logistics, which will guide the application of combat power in the Information Age.

In March 1994, the Chief of Staff of the Army stated,

> The high ground is information. In the past we organized around killing systems, feeding the guns. The force of the future must be organized around information--the creation and sharing of knowledge followed by unified action based on that knowledge which will allow commanders to apply power effectively. Information will be the means to a more powerful end. It is the information based battle command that will give us ascendancy and freedom of action--for decisive results--in war or OOTW.[3]

The Army is transforming itself in accordance with the NMS to a force based on capabilities needed for shaping and responding, while at the same time preparing for the

future. Additionally, the Army is attempting to become a more efficient and effective force. Leveraging information technologies is one of the Army's pillars to build a more effective and efficient force. This knowledge-based force will be able to shape and respond to uncertain, asymmetric threats.

The Army is preparing for the uncertain future through Force XXI, AV 2010 and JV 2010. AV 2010 is the starting point for building the Army of the future capable of shaping, and responding to an uncertain future. AV 2010 specifies six patterns of operations: gaining information superiority, projecting the force, protecting the force, shaping the battlespace, decisive operations, and sustaining the force. Gaining information superiority is fundamental to all AV 2010 patterns of operations. It is the starting point and foundation of this study. "These six operation concepts outlined in AV 2010 strive to support JV 2010 operation concepts and achieve new levels of effectiveness as the land component member of the joint war-fighting team."[4]

Force XXI is the process and experimentation process for building the Information Age Army capable of information superiority. Force XXI processes attempt to provide insights into doctrinal and force structure adjustments necessary to employ new systems. It does this through a series of experiments ranging from the advanced warfighter experiments (AWEs) to small-scale efforts focused on functional areas.

A Statement on the Posture of the United States Army Fiscal Year 2000: America's Arm-Assuring Readiness for Today and for the 21st Century discusses JV 2010, AV 2010, Force XXI, the Army After Next, and the Army Modernization plan. The posture statement outlines the Army's plan for achieving full-scale dominance in the twenty-first century. The posture statement ties together the anticipated requirements,

unknown threats, and information age advances into a road map for the Army in the twenty-first century. The Army posture statement provides the researcher with information concerning where the Army is headed in the twenty-first century. "The Army is implementing a comprehensive modernization plan based on the anticipated requirements of future strategy and extensive experimentation with emerging technologies."[5]

The first Army modernization goal is digitizing the Army. Digitizing the Army is the means by which the Army intends to achieve information superiority. Digitization is the use of computers and communication systems to enable commanders and staffs to quickly acquire and disseminate information. This improved ability to acquire and share information will expand the Army's ability to enhance decision making. Commanders and staffs must learn to manage greater amounts of information. As a result, commanders must integrate systems and staff functions to manage this increased amount of information and technology. This research seeks to explore the integration of staff functions and systems to improve the ARSOF commander's decision making.

"The essence of command, which is the art of formulating concepts; prioritizing needs and assessing risk; and motivating and directing soldiers and their organizations to accomplish the mission, has not changed."[6] Technology will influence how battle command and decision making are conducted. In accordance with FM 100-5, battle command visualizes the current state and future state, and it then formulates concepts of operations to get from one to the other at least cost and risk. It includes assigning missions, prioritizing and allocating resources, selecting the time and place to act, and knowing how and when to make adjustments during the fight. Technology aids the

commander's ability to control. "Information technology, while aiding the commander in executing control, also will ultimately influence aspects of command, i.e., decision making."[7]

TRADOC Pam 525-5, *Force XXI Operations,* describes the conceptual foundation of the conduct of operations in the twenty-first century. It describes the Army's digitized battlefield vision of the future. The vision outlines five battle dynamics that will be influenced by the ability to move information rapidly in the twenty-first century. The aspects of the future battlefield are battle command, extended battlespace, simultaneity, spectrum supremacy, and the rules of war. Battle command will become more of an art. Commanders must apply principles and develop courses of action to defeat an unknown, asymmetric threat. The information advances and communications systems will allow nonhierarchical dissemination of information. "The new way of managing forces will alter, if not replace, traditional hierarchical command structures with new internetted designs."[8] See figure 3 (Command Information Structures).

The ability to process and disseminate information rapidly will change the way the Army commands in the twenty-first century. "The Army's vision of the future battle command is reflected in the Army Battle Command System (ABCS) concept. The ABCS and software will use broadcast battlefield information, as well as information from other sources, and integrate that information, including real-time friendly and enemy situations, into a digitized image that can be displayed graphically in increasingly mobile and heads up display."[9]

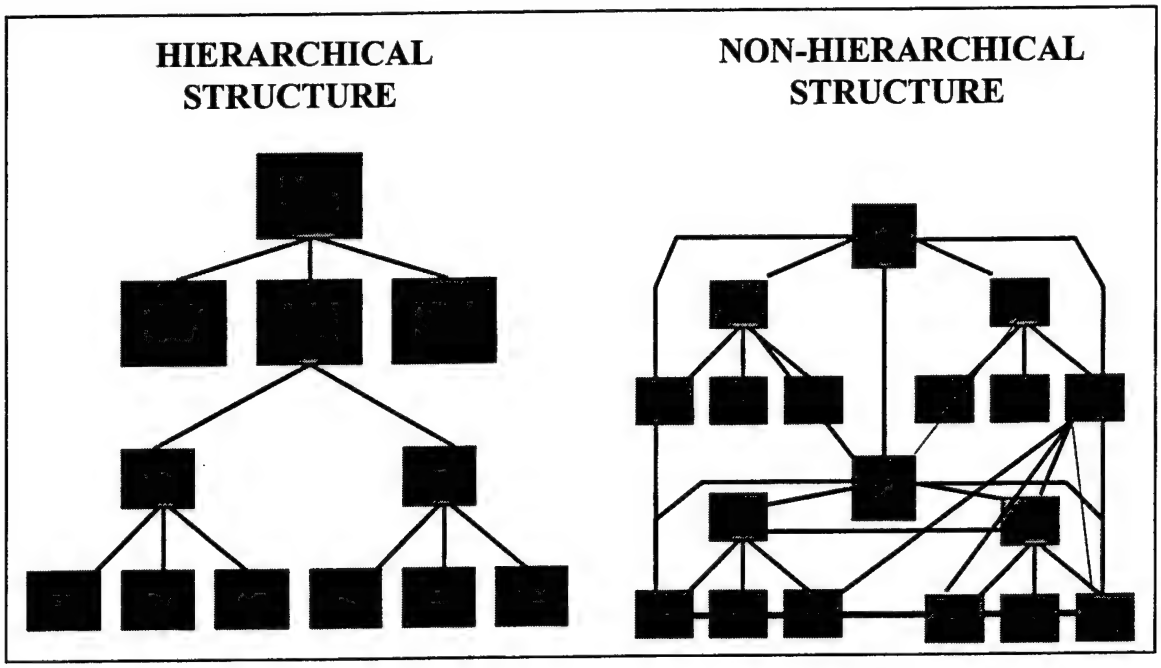

Figure 3. Command Information Structures. Source: U.S. Army Training and Doctrine Command, TRADOC Pam 525-5, *Force XXI Operations* (Fort Monroe, VA: TRADOC, 1 August 1994), Chapter 2.

The ABCS gives commanders at all levels a common, relevant picture of the battlefield tailored and filtered to their level of interest and need. ABCS links combat, combat support, and combat service support units in a nonhierarchical internetted process to the same common operational picture. See figure 3. "Information on services or other activities, including logistics, movement control, air defense warning, intelligence, and other areas can be readily accessed through pull-down information carousel (a nonhierarchical format)."[10] However, the control of units will remain the normal hierarchical realm. In the future, organizations will be able to collect, process, disseminate, and display information quickly to whoever requires it.

Commanders will be able to visualize an extended battle space. Advances will expand the commander's battlefield geometry. Commanders will be able to use an

expanded array of joint and service war-fighting systems to engage the enemy at extended distances. Information operations will simultaneously allow the commander to better visualize battle space and blind and disrupt the enemy's vision. Conversely, technologies will force commanders to disperse friendly forces and to mass only when required to destroy the enemy. ABCS technologies will allow the command and targeting of multiple objectives at once. In addition, commanders will be able to synchronize joint and Army war-fighting systems throughout their AO.

Finally, TRADOC Pam 525-5 talks about the changing rules of war. The threat is less defined and asymmetric. Future analysis of the threat will extend beyond the traditional focus of today's battlefield. "Collection of intelligence, predictions of opposing force behavior, and ability of our soldiers to assess enemy behavior and act quickly will prove to be difficult challenges."[11]

This study explores the joint and service C4I systems available to ARSOF commanders and staffs to enhance information sharing and decision making; therefore, a thorough understanding of C4I systems being developed and fielded is the foundation upon which this study must be built and conducted. Current staff organizations, procedures, and analytical methods must evolve to command and control the increased flow, faster pace, and huge volume of information sharing that ABCS offers. This study cannot continue without a complete understanding of ABCS and the corresponding procedures and structures that must also be adapted.

The Staff Leader's Guide for Army Battle Command System is a wide-ranging guide to develop collective staff training and skills required to use digitized systems. The

staff leader guide outlines ABCS structure and supporting systems. ABCS consists of six systems:

1. Global Command and Control System A (GCCS-A)
2. Maneuver Control (MCS), Advanced Field Artillery Tactical Data System (AFATDS)
3. Air and Missile Defense Planning and Control Systems (AMDPCS)
4. All-Source Analysis System (ASAS)
5. Combat Service Support Control System (CSSCS)
6. Force XXI Battle Command Brigade and Below (FBCB2).

See figure 4 (ABCS Environment).

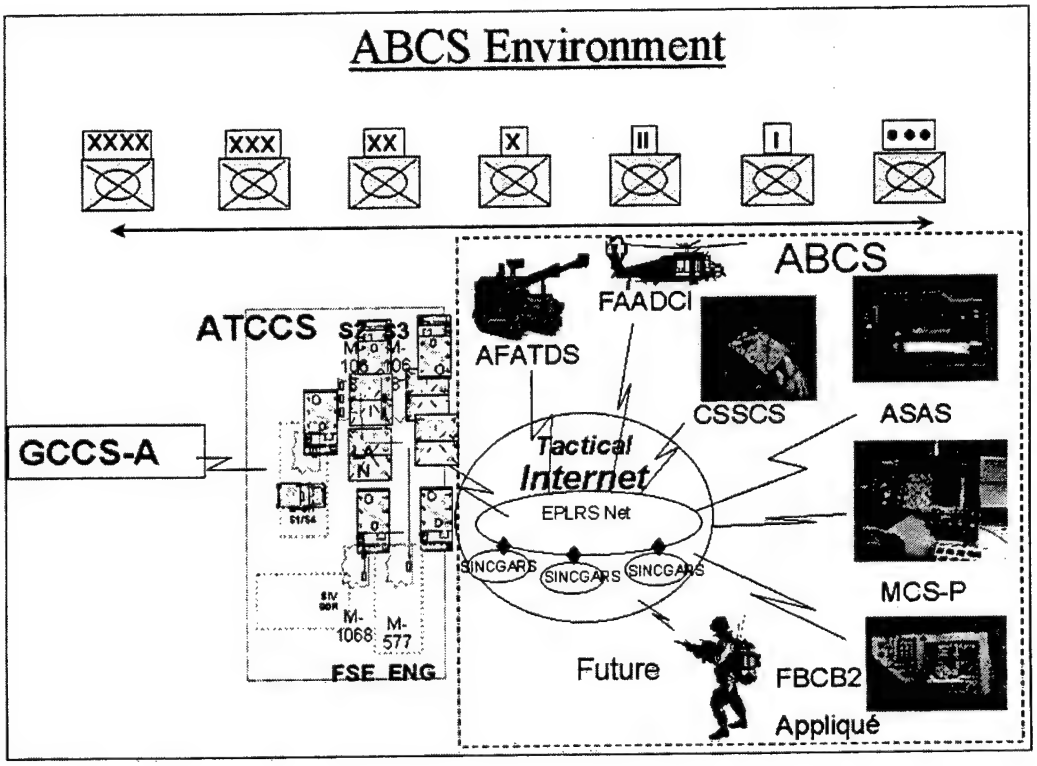

Figure 4. ABCS Environment. Source: Headquarters, Department of the Army, *Army Battle Command Master Plan* (Washington, DC: USGPO, 1994), Chapter 4.

ABCS is a multilevel command and control system that links the battlefield functions into a common operational picture. "ABCS ties together individual weapons platforms to the Joint Level."[12] Finally, the system interfaces with GCCS through GCCS-A. GCCS-A is the Army component of the GCCS. It provides the links to joint systems, such as Air Force Tactical Air Control Systems (TACS), Annotated Planning System (APS), and the Navy Joint Maritime Command Information System (JMCIS). ASAS is the intelligence and electronic warfare component of ABCS. It provides processing, analysis, reporting, and technical control of intelligence systems. AMDPCS consists of two systems: Forward Area for Defense Command, Control and Intelligence System (FAADC2I), and the Air Missile Defense Work Station (AMDW/S). AMDW/S targets the low-altitude aerial threat and provides the enemy threat. The FAADC2I provides Army Airspace Command and Control (A2C2) and links the AMDW/S to MCS and ASAS. CSSCS is the logistics component of ABCS. CSSCS provides information on all classes of supply, field services, maintenance, medical services, and movements. Additionally, it provides logisticians with planning estimates for operations and collateral status reporting. The Advanced Field Artillery Tactical Data System (AFATDS) is the fire support component of ABCS. AFATDS provides joint and combined fire support links. Force XXI Battle Command, Brigade and Below (FBCB2) is used at the brigade and below level. It is designed to provide "on-the-move" situational awareness. It feeds the ABCS database with friendly information and current friendly and enemy positions.

The Staff Leader's Guide discusses information management in digital units. It outlines the responsibilities of the commander, the information manager, and the staff for accessing, displaying, and disseminating information. ABCS allows the commanders and

their staffs to monitor the current situation, synchronize operations, integrate and synchronize the battlefield functions, coordinate joint air and naval support, update weapons systems targeting parameters, and control the battle as one operation. According to *The Staff Leader's Guide*, information management entails skillful filtering, fusing, and focusing of information by staffs so that commanders are not overburdened or distracted by unnecessary details. The ABCS information management process orients on the specific needs of the commander and his staff. The process consists of three major steps of filter, fuse, and focus (each major step has supporting substeps):

1. Filter: analyzing the mission and commander's guidance to determine requirements.

2. Filter: understanding the sources of information

3. Filter: preparing a collection plan and the orders necessary to affect it, and manipulating the collection system to obtain the information.

4. Fuse: managing data flow to assure that key elements of information emerge clearly from the clutter of all available information.

5. Focus: arranging for clear, timely display of critical information in necessary places.

6. Focus: disseminating a COP and other relevant data to all interested parties.

See figure 5, Information Management Process.

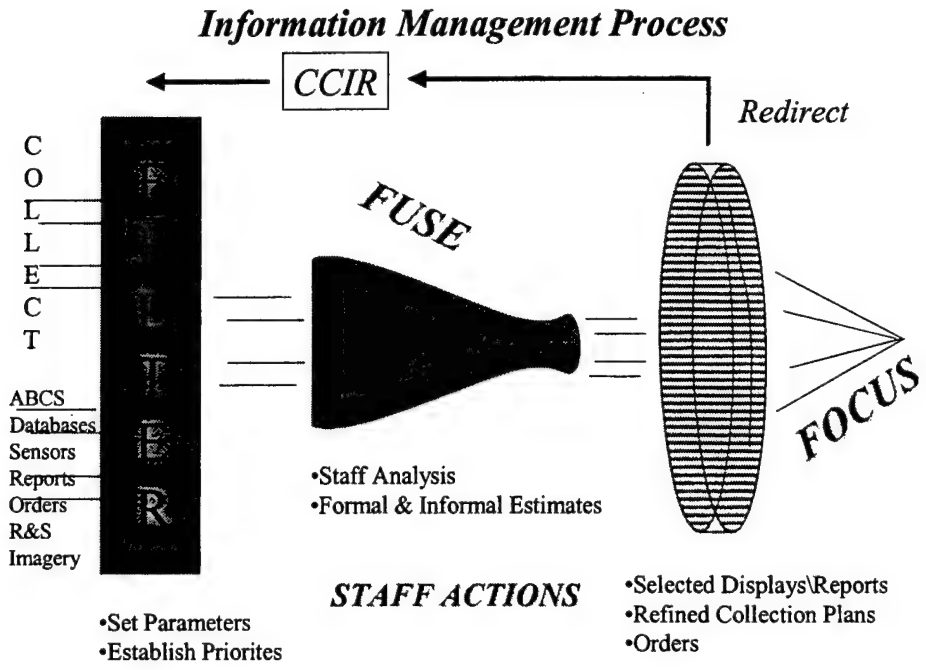

Figure 5. Information Management Process. Source: Headquarters, Department of the Army, *Staff Leader's Guide for the Army Battle Command System* (Washington, DC: USGPO, 1994), Chapter 4.

Applying the filter-fuse-focus process and accomplishing the following achieves information management:

1. Organizing and resourcing primary and augmenting staff
2. Executing and disciplining the filter-fuse-focus process

Moreover, the staff organization and structure must support the information management process. Information management cannot be done by individuals or by staff sections in isolation. Units must be organized in a management setup that is combined in support of each staff function and or battlefield operating system. The structure requires a union of staff officers and supporting sections to standardize procedures that are products joined in

a netted loop of databases, displays, and reports. Essentially, the commander and staff must:

1. Establish vertical and horizontal relationships and communications
2. Identify and task organize positions by functions, tasks, and responsibilities
3. Train the staff
4. Establish SOPs

Primary and augmenting staff officers and sections must be able to monitor information traffic, know what to file, what to display, where to store in the correct directory or database, and what to filter. In addition, they must be alert to critical information needs and decision points in the operations requiring a commander's action or decision.

> An increase in the amount of information available does not guarantee certainty; in fact, it potentially increases ambiguity. Current staff organizations, procedures, and analytical methods must adjust to master the richer flow, faster pace, and huge volume of information. The challenge is to find better, not faster, analysis and decision-making procedures.[13]

The unit's plan for command and control and its communications plan(s) are closely related to the filter-fuse-focus process to exploit information in an execution cycle. When a commander receives a tasking or mission, mission analysis and his current situational understanding are the initial inputs into the Military Decision-Making Process (MDMP). In the ABCS environment, this initiates the plan, prepare, execute (PPE), and access cycle. This process is continuous and dynamic. Intelligence assets are tasked to fill gaps in the COP. The commander must evaluate the COP and provide commander's critical information requirements (CCIR). As the COP changes the commander must modify his guidance and orders. The goal in ABCS information management is to

maintain situational awareness, make better decisions, exploit information, and execute operations faster than the enemy.

During preparation, information management focuses on determining the categories of information, establishing information channels, and presenting information. The Army uses three types of information: critical, exceptional, and routine. Critical information directly affects the successful execution of an operation. Exceptional information directly affects mission success also, but it must be recognized and identified as vital by staffs and subordinates. Routine information is standard, repetitive information or reporting that occurs everyday. All information must be streamlined along a distribution system that includes a command channel, staff channels, and technical channels. Staff and or TOCs must present or display only the information that directly contributes to the commander's decision making. Information can be presented through written reports, verbal reports, and graphic displays. Units must standardize and establish formats for reports, estimates, staff briefings, and graphic displays.

During the planning process, information management focuses on staff estimates, courses of action, assembling of the information necessary to make and support decision making and tracking of the status during the operation.

During execution, commanders and staffs have the capability to monitor the COP, orient to the commander's CCIR, obtain a decision, and act. This refers to the Observe, Orient, Decide, and Act (OODA) Loop. The information exploitation cycle is portrayed in figure 6 (Information Exploitation and Execution Cycle).

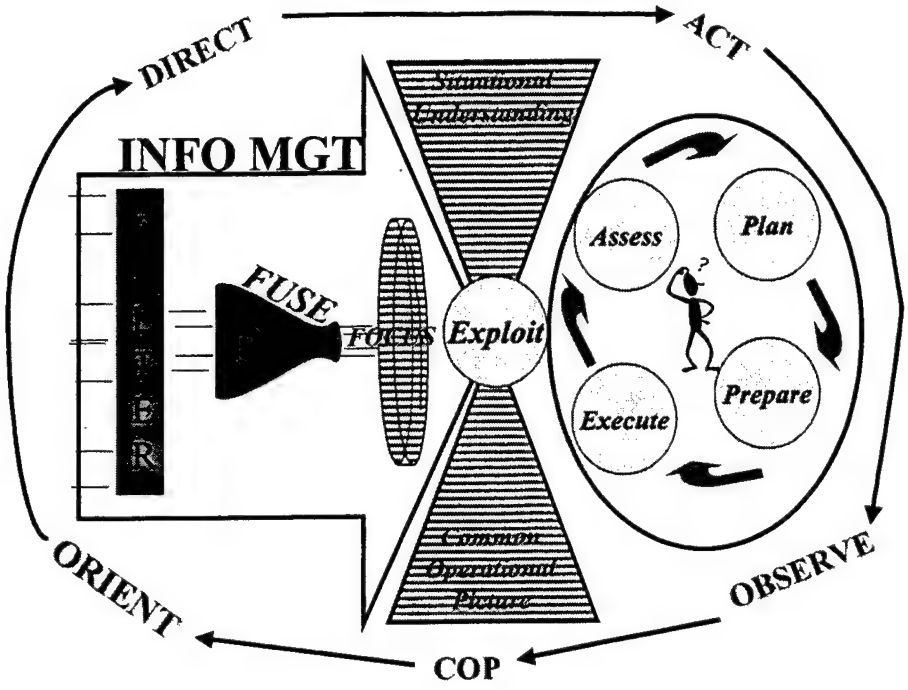

Figure 6. Information Exploitation and Execution Cycle. Source: Headquarters, Department of the Army, *Staff Leader's Guide for the Army Battle Command System* (Washington, DC: USGPO, 1994), Chapter 4.

The Staff Leader Guide also addresses the command post (CP). Current configurations, roles functions, staff responsibility, and continuity of operations are outlined. The management organization and structure must support the information management process of filter-fuse-focus. "CP cells battlefield functions must be organized for a confederated management network."[14] The CP cell must have the personnel to filter-fuse-focus the particular battlefield function.

Finally, *The Staff Leader's Guide* discusses creating, maintaining, and tailoring the COP in digitized units. The COP is derived from a common database architecture. It provides the structure necessary for situational understanding and enhances battlefield visualization. The COP allows vertical and horizontal access. Commanders must

determine the levels and displays to monitor based on CCIR. Subsequently, staffs must determine what displays support their needs and the commander's guidance.

FM 31-20 (ID), *Doctrine for Army Special Forces Operations*, describes how Special Forces task organize to establish, operate, and defend their bases. SF operations are planned, directed, launched, supported, and recovered through a system of operational bases. The SFOBs and FOBs are normally organized into an OPCEN, a SPTCEN, and a SIGCEN.

The OPCEN is primarily concerned with mission planning and execution. The SPTCEN manages all Combat Service Support (CSS) and Combat Health Support (CHS) requirements. The SIGCEN installs, operates, and maintains the base's internal and external C4 system. All three centers have their own organization and functions, but their activities are interdependent.

The OPCEN plans, coordinates, directs and controls operation. It performs the functions for the conventional tactical operations center. The S2, S3, and S5 are collocated in the OPCEN.

The SPTCEN provides CSS to the base and its deployed SOF. It performs the functions of a conventional unit's trains. The SPTCEN consists of the unit S1, S4, and medical sections; the unit ministry team; organic support company; appropriate direct support level CSS and combat health support attachments from the 528th Special Operations Support Battalion (SOSB), Army Service Component Command (ASCC), or component command of another service.

The SIGCEN installs, operates, and maintains secure, reliable, long-range communications between the base and its higher, adjacent, subordinate, supporting, and

supported HQ and deployed SOF. The SIGCEN maintains continuous internal base communications. It consists of the unit S-6, organic signal detachment, and attached or supporting signal elements of the 112th Special Operations Signal Battalion, Joint Communications Support Element (JCSE), or theater signal brigade.

The SF groups and battalions employ the standard Army staff organization and MDMP outlined in FM 101-5. The C2 facilities and structures are significantly different. C2 is exercised through a network of operational bases. "The bases combine the functions of a command post, unit trains, and a staging area into a single entity"[15] SFOB and/or FOB locations are normally secure, logistically supportable sites in the communications zone. Both SF groups and battalions establish and operate operational bases.

The SFOB is a command, control, and support base operated by an SF Group. An SFOB may serve as an ARSOTF HQ or, when augmented, as the nucleus of a JSOTF. The FOB is the command, control, and support base established and operated by a SF battalion, utilizing organic and attached resources. Figure 7 outlines the doctrinal structures of an SFOB and or FOB.

TRADOC Pam 525-200-1, *Battle Command Battle Dynamic Concept*, defines the framework for twenty-first century battle command and the required capabilities needed for a force projection Army. It outlines two vital components of battle command--the ability to decide and the ability to lead--in the Information Age. *Battle Command Battle Dynamic Concept* describes how twenty-first century battle command, enhanced by Information Age advances, can improve a commander's ability to synchronize maneuver, firepower, and protection to new levels and at a tempo with which the enemy cannot keep

up. The premise of 525-200-1 is that better understanding of the battlefield through Information Age advances will allow commanders to move more effectively and rapidly to apply overwhelming combat power at the decisive point. It outlines a future battlefield where a commander understands and visualizes the battlefield from the perspective of his subordinate commanders and units adjacent to him; has a complete understanding of intent up, down, left and right to produce a nested intent and unity of effort; visualizes future end state; articulates a clear vision; determines CCIR; formulates concepts to achieve the desired end state; makes timely decision; and considers current and future operations concurrently. This future battlefield requires a common operational picture for all elements positioned or located on the battlefield and the elements capable of influencing the battlefield. Additionally, it is expanding the battlefield geometry of the commander.

Doctrinal SFOB/FOB Structure

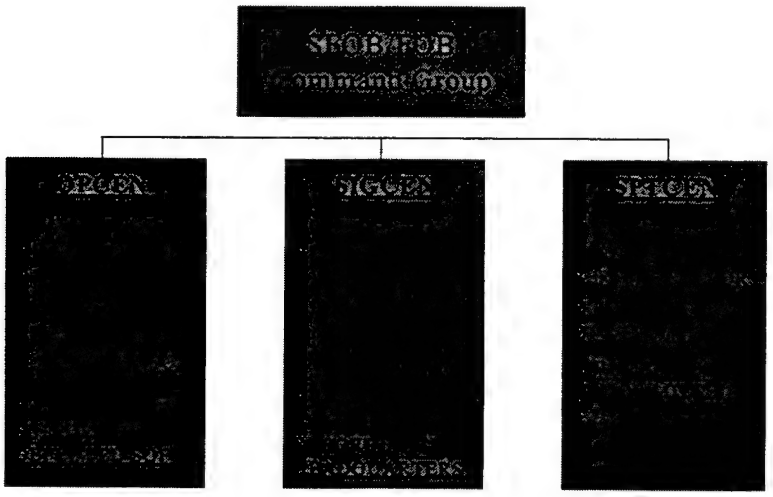

Figure 7

> The Teams and staff through which the modern commander absorbs information and exercises authority must be beautifully interlocked, smooth-working mechanisms. Ideally, the whole should be practically a single mind.[16]
>
> General Dwight D. Eisenhower

Finally, 525-200-1 discusses the tailoring of the organization to support decision making and continuity of operations. The organizations and battle command systems must be robust and flexible enough to be capable of providing data for the CCIR at the right time and concurrently with other functions. As information becomes available, the staff and its activities must be synchronized to enhance the commander's visualization. The ABCS and the synchronization of the staff and its activities are the vehicles to improve and change the way the Army commands and controls operations.

Next the researcher sought to find examples of battle command using ABCS. This led the to the Center for Army Lessons Learned (CALL). CALL provided a wealth of information for the researcher on techniques and procedures for employing ABCSs. CALL produces Initial Impression Reports (IIRs) on the Advanced Warfighting Experiment (AWE) that document lessons learned from the exercises. The AWE-IIR July 1997 provides data on how Army Force XXI equipment used by the Experimental Force (EXFOR) affects the command and control process.

Also, CALL is producing IIRs on the Rapid Force Projection Initiative. The Rapid Force Projection Initiative IIR May 1999 provides a summary of the observations on the use of automated command, control, communications, computers, intelligence, surveillance, and reconnaissance system to gain situational understanding and track and manage the battle.

Additionally, Operation JOINT ENDEAVOR IIR March 1997 documents Task Force (TF) Eagle's successful operation of effective C4I systems using MCS and WARLORD. TF Eagle enhanced its capabilities with a deployed Local Area Network (LAN) using commercially off-the-shelf laptop computers. TF Eagle used the MCS, WARLORD, and laptops to enhance the common operational picture of the battlefield. TF Eagle created and is still using a structure similar to the 7th SFG (A) Battlestar.

Finally, CALL produces a Tactical Operations Center Newsletter. The TOC newsletter is the sole doctrinal source that consolidates tactics, techniques, and procedures (TTPs) for TOC operations. The newsletter consolidates doctrinal information and proven TTPs from observer-controller (OCs) from the CTCs. This newsletter is a quick reference guide for TOC operations.

Students attending the Command and General Staff College (CGSC) and the School of Advanced Military Studies (SAMS) have written theses and monographs on battle command, CCIR, battle command support systems, and information superiority. Some examples of these are "Battle Command: Tactical Decision-Making in the Information Age" in which Major Russell Hall discusses the Army's adoption of information technology to support its Force XXI concept. Additionally, Major Hall analyzes ABCS's ability to improve battle command.

In his monograph, " The Battle Command Support System: A Command and Control System for Force XXI," Major Michael Prevon writes about how current command and control systems and command posts require "rethinking" for the battlefield expected in the twenty-first century. This monograph reviews the development of staffs

and command posts. Additionally, Major Prevon discusses the integration of technologies and staffs to become more efficient and improve situational awareness.

Finally, in her monograph, "Commander's Critical Information Requirements: The Key to a Commander's Battle Image," Major Susan Kelley-Forsyth explores the concept of CCIR. She discusses ways commanders can manage information overload to effectively deal with uncertainty and make timely decisions. She focuses on the relationship between command and control, decision making, and information management.

Recent articles in *Parameters* and the *Naval War College Review* on information operations provide an understanding of how digitization improves decision making. In his article, "Information, Technology, and the Center of Gravity," Lieutenant Commander Jeffery A Harley, a graduate of the Naval War College, discusses the tendency to mistake the role of information and to overestimate the value of technology. Harley goes on to discuss how the United States can fight better in future wars if the military understands the influence of information and technology on command and control. Additionally, he discusses the need to change command relationships created by new technologies and communications capabilities. Finally, Lieutenant Commander Harley states, "One of the principal tenets of command is centralized control with decentralized execution."[17] This statement directly correlates to the Battlestar, which fuses staff functions and activities to provide centralized control and decentralized execution.

In their article for *Parameters,* "Military Theory and Information Warfare," Ryan Henry and C. Edward Pearltree propose that hierarchical command structures and

military bureaucracies, created to fit Industrial Age needs, must give way to a decentralized flattened business network of the Information Age. They believe the success of businesses that have adapted to networked computing, communications, and data processing and the failure of those that have not, justify introducing new procedures and processes into the military.

The Tofflers, in their book *War and Antiwar*, discuss the effects of the Third Wave (Information Age) on future warfare. Their views are based on lessons learned from the Gulf War. They discuss the use of Third Wave technologies against an industrial based enemy. The Third Wave advances improve situational understanding and add precision to the battle space. The Tofflers document and allow the researcher to understand how the application of technology in combat improves situational understanding and adds precision. The Tofflers also state, "The growing complexity of the military lends heavier-than-ever significance to the term integration."[18]

The Rand report *Understanding Commanders Information Needs* provides observations of numerous TOCs during command post exercises (CPXs). Three principles apply to successful TOC operations: the consolidation of functions to shorten communications paths, a single information pool to which personnel can refer when information is needed, and the chain of command capable of extension and contraction as needed. Additionally, the Rand report discusses the importance of the interaction of the commander and staff in producing, transforming, and consuming information. The theme of the Rand study is the sharing of images. The commander seeks a dynamic image of the battlefield that will lead him to understand what action needs to be taken. As a result,

staff members must share their commander's image if they are to understand and supply his information requirements.

The Army is moving forward with ABCS to provide the commander and his staff with timely, accurate, and mission-critical information to support and improve battle command. Leaders must embrace and harness the technology to fight and win on the future battlefield. The Army must also look at adapting and integrating its organizations to employ these new systems. The proper employment and synchronization of staff functions is key to improving decision making on today's and tomorrow's battlefield. How commanders organize their staffs to apply these systems is the important issue. New organizational structures must be developed.

Summary

These references provided the researcher a challenge to critically analyze the written works. This comprehensive body of literature defines the future battlefield, discusses how technology can influence command and control, and outlines the systems the Army is fielding to leverage technology and to improve command and control on the future battlefield. Additionally, it describes how successful organizations have adapted new structures, procedures, and processes to defeat rivals on the economic battlefield. The above documented published works had the information required to conduct retrospective research to answer the questions posed.

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[1]Thomas Cleary, *The Art of War, Sun Tzu* (Boston: MA: Shambhala Publications, Inc., 1998), 20.

[2]Honorable Louis Caldern and General Dennis J. Reimer, *United States Army Posture Statement Fy 2000* (Washington, DC: USGPO), 1994, 1-4.

[3]Headquarters, Department of the Army, *Army Battle Command Master Plan* (Washington, DC: USGPO), 1994, 1-4.

[4]Caldera and Reimer, 35.

[5]Ibid., 53.

[6]Headquarters, Department of the Army, *Army Battle Command Master Plan,* 1-2.

[7]Ibid., 1-3.

[8]Army Training and Doctrine Command, TRADOC Pam 525-5, *Force XXI Operations* (Fort Monroe, VA: TRADOC, 1 August 1994), 2-7.

[9]Ibid., 3-19.

[10]Ibid., 4-19.

[11]Ibid., 2-8.

[12]Headquarters, Department of the Army, *Staff Leader's Guide for the Army Battle Command System* (Washington, DC: USGPO, 1994), 3-1.

[13]Headquarters, Department of the Army, FM 101-5, *Staff Organizations and Operations* (Washington, DC: USGPO, 31 May 1997), 1-1.

[14]Headquarters, Department of the Army, *Staff Leader's Guide for the Army Battle Command System,* 4-9.

[15]Headquarters, Department of the Army, Field Manual 31-20, *Doctrine for Army special Forces Operations* (Washington, DC: USGPO, December 1998), 4-2.

[16]Army Training and Doctrine Command, TRADOC Pam 525-200-1, *Battle Command Dynamic Concept* (Fort Monroe, VA: TRADOC, 1 December 1994), 11-19.

[17]Jeffrey A. Harley, "Information Tecnology, and the Center of Gravity," *Naval War College Review* (New Port, RI) (winter 1997): 9-15.

[18]Alvine Toffler and Heider Toffler, *The Third Waive* (New York: Bantam Books, April 1981), 90.

CHAPTER 3

RESEARCH METHODOLOGY

Research Approach

The purpose of this retrospective research is to determine if the centralization and consolidation of staff functions, combined with new technological advances, improves ARSOF decision making. This study evaluates and recommends how commanders at the SFOB and FOB levels can improve decision making by consolidating and centralizing organic staff functions and augmenting staff functions. Also, this study explores the joint and service C4I systems available to ARSOF commanders and staffs to enhance information sharing and decision making. Additionally, this study demonstrates how improved situational awareness enhances decision making. Finally, this study documents how commanders and staffs apply GCCS, ABCS, and nonhierarchical dissemination of information to improve battle command.

The Steps Taken

The retrospective method allowed the researcher to evaluate the significance of CTC rotations, JTFEXs, and AWEs, using joint and service C4I systems, and to project the impact of these systems on the future battle command. The researcher used AARs files from the CALL databases, lessons learned from CTC rotations and, AWEs, Prairie Warrior exercises, joint and service C4I pamphlets and manuals, battle staff training programs, and the TRADOC homepage for digitization as the primary sources of information for comparison of procedures required on future battlefields.

Step 1. The research began in Combined Arms Research Library. The automated periodical index was used to find all the latest articles on future capabilities and

requirements, battle command, decision making, and joint and service C4I systems. This index also provided a link to other services' writings and publications on decision making, battle command and future capabilities, and requirements. Additionally, CARL's automated card catalog provided books and references required for background knowledge on views of the twenty-first century, battle command, and ABCS.

The researcher used the CARL special collection extensively. The two research librarians searched for all monographs, theses, and papers on the subjects of battle command, decision making, joint and service C4I systems, information operations, Information Age technological advances, and TOC operations. In addition, the third floor maintains multiple copies of current Army and joint manuals that provided the foundation of knowledge on battle command, decision making, and Force XXI operations and initiatives required to conduct this study.

Step 2. The researcher gathered available information pertaining to Army digitization, battle command, and decision making at the SFOB and FOB levels. The information the researcher sought to examine was the framework to describe and outline battle command and required capabilities stipulated for a force projection Army in the twenty-first century. This information was found on the TRADOC homepage for digitization. In addition, the TRADOC homepage provided links to all the ABCS program manager's homepages. The TRADOC homepage and the ABCS program manager's homepages provided the researcher the Army's digitized vision of the future and the systems the Army is fielding to remain a relevant, strategic force capable of decisive victory in the twenty-first century.

Step 3. During this step, the research focused on gathering information pertaining to the employment of ABCS in support of operations at the SFOB, brigade, and battalion levels. The researcher searched for information on SFOB, brigades, and battalions employing ABCS during CTC rotations, AWEs, and JTFEXs. This step required access to CALL-restricted databases. The researcher was only able to collect specific data on systems employed. There was a lack of specific or detailed data on how and in what locations the systems were employed.

Step 4. The researcher visited CALL's military analyst Dr. George K. Gernert. The initial intent of this meeting was to gain access to additional CALL CTC files for additional detailed data on CTC rotations. Dr. Gernert directed the researcher to CALL's publications and newsletters that documented trends and initial impression reports on AWEs, the Rapid Force Projection Initiative, Operation Joint Endeavor, NTC Trends Compendium, and TOC operations. Utilizing the above-mentioned sources, the researcher was able to gather specific data from the collection of trends and initial impression reports on the detailed techniques and procedures that work and are being employed in the field. Additionally, the researcher found that CALL produces the sole-source doctrinal document on TOC operations currently available to the force.

Step 5. The researcher set up a meeting with the assistant program manager for MCS on Fort Leavenworth Mr. Glenn A. Kolin, who provided the researcher with the operational concept for MCS. Mr. Kolin provided the researcher with the detailed capabilities that MCS provides the commander and staff. Mr. Kolin highlighted the fact that MCS is the vertical and horizontal integrator that maintains the common tactical picture and supports collaborative planning and execution at the SFOB or brigade and

battalion levels. More importantly, Mr. Kolin provided the researcher with a comprehensive up-to-date Staff Leaders Guide that outlines digitized TOC setups, collective staff training, and skills required using digitized systems. This document provided the researcher a single-source document for establishing, operating, and training digitized TOC and staffs utilizing ABCS.

Step 6. The researcher used the Internet and CALL databases to examine AARs of CTC rotations employing ABCS. Additionally, the 7th SFG (A) forwarded to the researcher the group's AARs from JRTC rotation 99-6 and JTFEX 99-1, which employed ABCS and GCCS. The researcher found this step insufficient. The files were inadequate and lessons learned did not document ABCS applications. The CALL database produced one NTC rotation (March 1994) that documented ABCS lessons learned. These lessons learned were outdated because the systems employed had changed and did not compare with the systems employed by the 7th SFG (A) and currently being fielded. The 7th SFG (A) AARs remain the single source documents available to the researcher on SOF employment of joint and service C4I systems and centralization and consolidation of organic and augmenting staff functions.

Step 7. During the researcher's weekly azimuth check meeting with Dr. Harold Orenstein, the researcher brought out the fact that a single doctrinal source that outlines tactics, techniques, and procedures (TTPs) for TOC operations does not exist. Consequently, Dr. Orenstein linked the researcher with the manual author for FM 100-34-1, ***Tactics, Techniques and Procedures (TTPs) for Command Post Operations.*** This chance contact proved to be the researcher's rosetta stone. Major Michael Porch, the manual author, provided the researcher access to FM 100-34, *Command and Control,*

Initial Draf, author's draft FM 100-34-1, and a copy of a working Paper, *Insights into Optimum TOC Environments,* by Dynamics Research Corporation. FM 100-34 (initial draft) establishes and explains the Army's command and control doctrine. FM 100-34-1 is a new manual that attempts to delineate TTPs for TOC operations. It outlines the functions, organization, personnel required, and battle staff duties required for TOC operations. Dynamics Research Corporation's paper summarizes TTPs developed during AWEs corresponding to the optimum environments for efficient battle command in digitized TOCs. Moreover, this paper provided the researcher with the insights and examples of TOCs to answer the primary research question. Some major insights or findings outlined in *Insights into Optimum TOC Environments* are include in table 1.

Table 1. Findings

Visualization	All battle staff members must be able to (1) see the same information at the same time, and (2) focus at the same time on specific information being pointed out by a speaker.
Verbalization	The basic idea is that all battle staff members must be able to hear all relevant verbal tactical information at approximately the same time. Verbal tactical information flows into a TOC through multiple channels, primarily radio nets and telephones. Visitors and persons returning to the TOC from visits elsewhere on the battlefield also insert it. Personnel in the TOC introduce some after watching visual information, listening to and discussing other verbal information, analyzing it, and then providing their insights. To avoid overload, verbal information needs to be filtered. Information passing through the filters is considered to be "relevant tactical information." The filtering process occurs both formally and informally according to unit SOP.
Assigned Places in the TOC	The commander, the battle staff principals, and the supporting unit liaison officers should have assigned places inside the digitized TOC. This permits all officers with responsibilities for portions of the plan to assess information being discussed in the TOC, and to participate in the sharing and discussion of information in the TOC. This assigned spot or location is the officer's principal place of duty within the TOC.

Step 7 produced the specific or detailed data on how and in what locations the systems were employed. Additionally, this step identified the exercises that had the required data that could not be produced in Step 6. Based on Dynamics Research Corporation's paper, the researcher amended the methodology to include Prairie Warrior exercises. Additionally, Step 7 provided the researcher with the specific exercises to focus on to conduct the study. The exercises that will be used to provide the data on TOC operations using ABCS and TOC layouts are in table 2.

Table 2. Exercises

AWEs and Exercises	TOCs Observed	Dates
FORCE XXI DAWE	Brigade "A," 4th Infantry Division	Oct-Nov 97
	Brigade "B," 4th Infantry Division	
Prairie Warrior 98 (AWE)	CGSC "1st Squadron, 10th Cavalry"	May 98
Prairie Warrior 99 (Not an AWE)	Brigade "C"	May 99
R3: JTFEX 99-1/JRTC 99-05	Battlestar	February 99
7th SFG (A)		

Step 8. Once all the research data were collected, they were organized into four sections: joint and service C4I systems, battle command, decision making, and TOC operations. Organizing the research into sections helped to determine the research methodology, and it focused the analysis process.

Step 9. Upon completion of the cataloging of the data, designated TOCs were compared and contrasted in accordance with capabilities to increase situational awareness, integrate the staff, improve decision making, and disseminate information.

Step 9 defined the optimal digital TOC environment and principal findings required to operate the digital SFOB or FOB applying Joint and Service C4I systems and nonhierarchical information environments and enclaves.

Step 10. Conclusions were developed and the recommended ARSOTF C4I systems, battle staff, and organizational structure or physical layout model was developed.

Summary

This retrospective study is designed to examine the application of joint and service C4I systems and the organization of the ARSOF TOC to improve decision making at the SFOB or FOB levels using accounts of SFOBs, brigades, and battalions at the CTCs, AWEs, and Prairie Warriors exercises. The research relied on the retrospective method in searching CALL's AAR files, initial impression reports and trends, and the TRADOC homepage for digitization via the Internet. In addition, battle command and TOC operations were studied and analyzed in accordance with the employment of C4I systems to enhance decision making.

The researcher identified examples of TOC operations that consolidated staffs and function around service C4I systems during AWEs, CTC battles ,and Prairie Warrior exercises. Battle command was analyzed from the perspective of employing new joint and service systems to improve decision making and disseminate information. The findings in chapter 4 indicate that centralization or consolidation of battle staffs using joint and service C4I systems improve decision making. However, the use of Information Age technologies has both positive and negative effects on decision making. To avoid information overload, information needs to be filtered. Centralizing and

consolidating the staff and identifying CCIR are the filtering processes to avoid information overload.

CHAPTER 4

ANALYSIS

Introduction

The Force XXI process is generating a revolution in Battle Command. ABCS digital technology is moving the Army beyond stovepiped information systems and traditional hierarchical command and control structures. There will be far more information available to the commander and the staff. Improved analysis, communication, and presentation technologies will allow the Army to transform this information into knowledge that can be exploited.

ABCS technology permits everyone to see the same common operational picture. Armed with the commander's intent, trained and motivated subordinates and units can act quickly and appropriately within the commander's intent and limits. Although ABCS technology will enhance planning and decision-making processes, commanders must maintain situational understanding, receive recommendations and courses of action, and select a course of action. The staff's job will be to monitor the situation, filter information, analyze the information, develop options, and present the information to the commander for a decision.

The relevant common operational picture of the battlefield is the visual display and underlying shared element throughout the organization and ABCS. The common operational picture will allow staffs to maintain and provide a more current and correct situation, provide decision aids to the commander, and anticipate the future. The common operational picture must be current and relevant. All staff personnel must have access to the common operational picture. The principal staff will be responsible for it,

and the entire staff will maintain it. ABCS technology provides the commander with the common operational picture and timely, accurate, and mission critical information to support and improve battle command.

Command posts or TOCs are assembly plants for information, acquisition, processing, dissemination, and orders. Basic time-tested imperatives drive the successful development and efficient operations of TOCs and also determine their effectiveness. A TOC should be small to be efficient. There can only be one TOC exercising control at any one time. If a commander wants his staff to keep him informed, he should avoid lengthy briefings and rely on unstructured, unscheduled discussion. Briefings are conducted to obtain necessary information. When a commander gives a subordinate a new mission, he should do it face to face. And finally, establishing a TOC is an art whose purpose is to collect and disseminate information in a prioritized manner.

The Army is manufacturing immediate and sweeping changes in TOC design, taking full advantage of the newest technology available. Digital TOCs are designed to assimilate automated command and control systems into a unified system providing battle staff personnel with timely, accurate, and enhanced information to support command and control of the force.

Commanders must create TOC environments that result in efficient and proficient decision making. This research found that commanders could make better decisions through increased situational understanding when the commander had all of his battle staff present and available for immediate participation in OODA Loop activities. Additionally, the commander, battle staff principals, and the supporting unit liaison officers had assigned places inside the digitized TOC.

The objective of the digital TOC is to achieve the highest level of situational understanding possible among the commander and battle staff in order to facilitate efficient exchange of tactical information and generate timely decisions. In the digital TOC environment, optimal TOCs ensure that the commander and battle staff personnel:

1. Have access to the same relevant common operational picture (RCP)--digital and analog.
2. Have access to the same information--digital and analog, written, and verbal.
3. Have assigned places inside the digitized TOC.
4. Filter-fuse-focus information.
5. Display information that is displayed is linked to the CCIR.

Evaluations

TOC Descriptions and Discussions

The TOCs listed in table 3 are described in this sequence.

Table 3. TOCs

FORCE XXI DAWE	Brigade "A," 4th Infantry Division
	Brigade "B," 4th Infantry Division
Prairie Warrior 98 (AWE)	CGSC "1st Squadron, 10th Cavalry"
Prairie Warrior 99 (Not an AWE)	Brigade "C"
R3: JTFEX 99-1/JRTC 99-05	Battlestar
7th SFG (A)	

The FORCE XXI DAWE

Figures 8 and 9 depict the TOCs "A" and "B," respectively. Also, in Appendix A are sketches depicting the placement of all staff and liaison sections within the TOCs. Appendix A contains: figure 16 which is the legend for the vehicle and tent layouts utilized by the two Force XXI DAWE TOCs; figure 17 which is a detailed sketch of the Brigade A TOC; and figure 18 which is a detailed sketch of the Brigade B TOC.

Brigade A

Brigade A's TOC was unique (figure 8). The situation map (SITMAP) was laid out horizontally in the center of the TOC like a terrain model. The commander and battle staff surrounded the SITMAP during periods of ongoing contact with the OPFOR and during periods prior to planned or anticipated contact. Five monitors provided the relevant common picture (RCP) and situational understanding. A sixth monitor provided the video teleconference monitor. All monitors were set up in a rack. The five RCP systems in the rack were:

1. Maneuver Control System (MCS)
2. All Source Analysis System (ASAS)
3. Forward Area Air Defense Command and Control System--Engagement Operations (FAADC2S EO)
4. Unmanned Aerial Vehicle Surveillance Television Monitor (UAV Monitor)
5. Joint Strategic Targeting and Reconnaissance System Moving Target Indicator (JSTARS MTI)

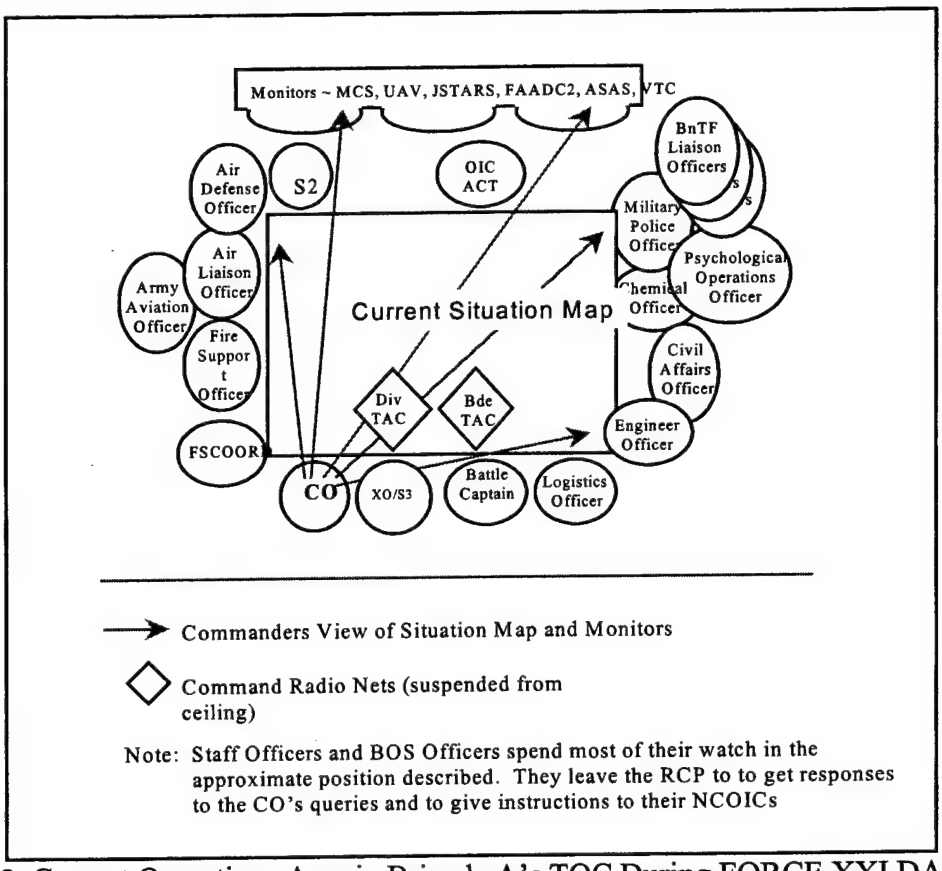

Figure 8. Current Operations Area in Brigade A's TOC During FORCE XXI DAWE. Source: Jim Murphy, *Insights into Optimum TOC Environments* (Andover, MA: Dynamics Research Corporation, , 10 August 1999), 14-41.

Characteristics of Brigade A's TOC identified during the exercise are as follows:

1. The CO had a clear view of both the digital and analog situations maps.

2. The key members of the battle staff were in easy speaking distance of the CO and, equally important, one another.

3. All persons in the current operations area could hear the transmissions on the brigade tactical net.

4. The key staff members had back-up personnel monitoring combat information flowing into the section work area. These persons would bring the incoming verbal

information forward to be filtered by the principal staff member who, when the information was relevant to the current situation, would announce it to others at the map.

5. Persons who had to lean over the map to assess detail could do so, and persons who needed greater detail generally had smaller scale maps readily available.

6. Information overload did not appear to be a problem. The group appeared to have a tacit, but effective information filtering process in place.[1]

During the exercise, the relevant discussion appeared to be ongoing throughout the TOC in accordance with normal battle tracking. "During the most intense periods, the discussion was always commander driven, yet officers were expected to speak up as they sensed important dimensions of the situation, which to that point had not been addressed out loud (verbally) by someone around the situation map."[2]

Prior to the exercise, the brigade did not establish an SOP for the location or positioning of battle staff personnel around the SITMAP. This positioning became the norm by the end of the first full day of the exercise. "The result was that Brigade 'A's' commander-battle staff group demonstrated the two most essential baseline criteria for an efficient, proficient TOC: the officers shared a common visual understanding of the situation, and they all had access to essentially the same relevant verbal tactical information."[3]

Brigade B

Brigade B was the first unit in the 4th Infantry Division to be equipped with the ATCCS systems. Brigade B attempted to command and control its operations utilizing the ABCS digital systems. Figure 9 shows how the commander established the TOC to focus on the digital situation. Brigade B established a traditional TOC. The battle staff

was positioned to minimize the footprint and simultaneously provide staff synergy. The SITMAP was positioned against a tent wall in the traditional vertical arrangement to the right of the commander. Additional maps were positioned along tent walls and vehicles for planning purposes and individual staff section battle tracking. "Only four battle staff officers had positions close enough to the CO to see the same RCP and hear the same verbal tactical information. The remaining members monitored the situation essentially from their assigned section areas, but walked forward to the situation map area when contact became either imminent or ongoing."[4] Six monitors provided RCP and situational understanding. All monitors were set up in a rack positioned in front of the commander. It merits repeating that only four battle staff officers (the S-3, S-2, FSCOORD, and BDE engineer) had access to the RCP. The six RCP systems in the rack were:

1. Maneuver Control System (MCS)
2. All-Source Analysis System (ASAS)
3. Forward Area Air Defense Command and Control System
4. Unmanned Aerial Vehicle Surveillance Television Monitor (UAV Monitor)
5. Joint Strategic Targeting and Reconnaissance System Moving Target Indicator (JSTARS MTI)
6. VTC

Disadvantages to Brigade B's TOC setup is as follows:

1. The CO had to turn his head to see the paper map, and thus had to reorient his view each time he switched back and forth.

2. The CO had to turn to speak with those key staff members who did not have places at the table. On occasion, key staff or liaison persons with whom he wished to speak would have to be summoned from their section work areas.[5]

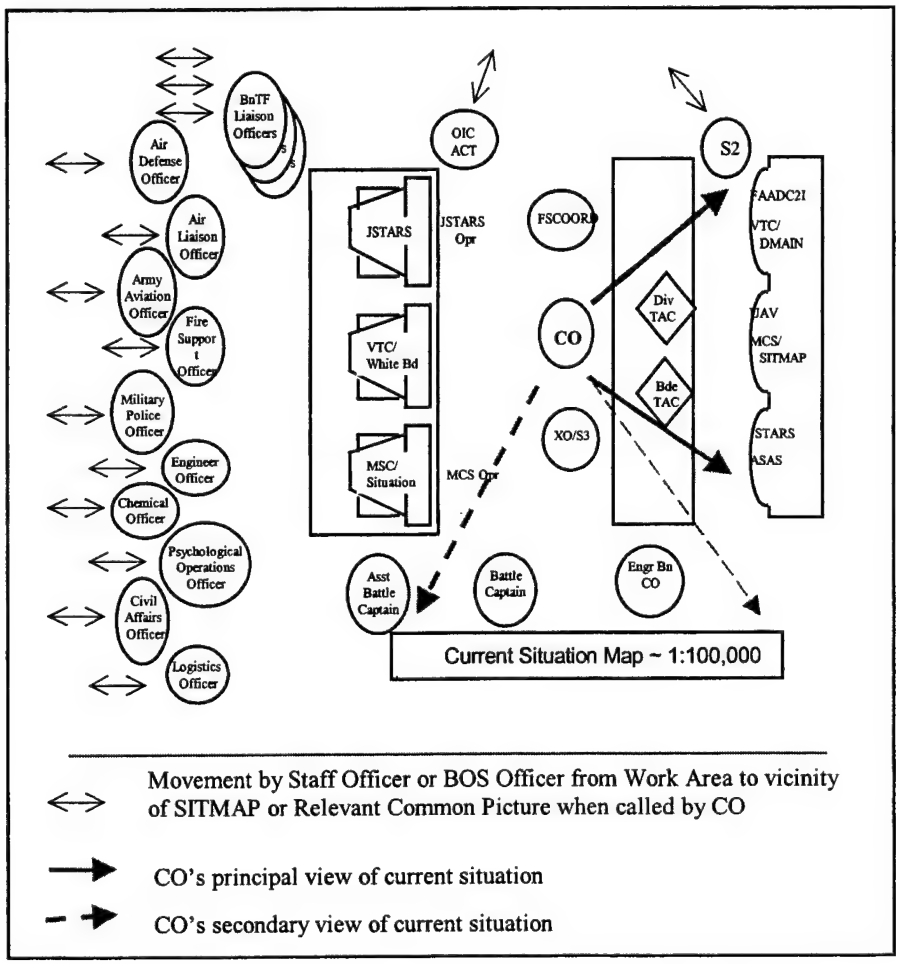

Figure 9. Current Operations Area in Brigade B's TOC During FORCE XXI DAWE. Source: Jim Murphy, Insights into Optimum TOC Environments (Andover, MA: Dynamics Research Corp., 10 August 1999), 16-41.

All battle staff personnel in the current operations area could hear the transmissions on the brigade tactical net, but not all key personnel, or their alternates,

were present in the current operations area at all times. "When not present, they were in danger of not overhearing key incoming tactical information that might easily bear on their specific functional area."[6]

> The interesting aspect of these two TOC layouts is that in the informal "tallies" of combat results, Brigade "B" acquitted itself well, but Brigade "A" was thought to have achieved consistently better results. Nonetheless, it is interesting to hypothesize that the concentration of decision-maker, principal staff officers, and supporting unit liaison officers enabled them the make better decisions (due to all available experts assessing the information as it arrived) faster (due to the experts' input being instantly available to the CO).[7]

Brigade A's TOC setup had the capability to monitor the COP, orient to the CCIR, obtain a decision, and act. This refers to the Observe, Orient, Decide and Act Loop (OODA). See figure 10, Information Exploitation and Execution Cycle. Brigade A's TOC setup facilitated the execution of the OODA Loop during the exercise.

"The idea is that Brigade 'A' might have enjoyed better combat results because their TOC environment enabled them to consistently *observe, orient, decide, and act* more quickly than Brigade B, and presumably more quickly than the OPFOR."[8]

The division and the brigades had the following collaborative planning tools: electronic whiteboards (a component of MSC) and video teleconferencing (VTC). These systems were extremely valuable to the planning process, allowing the division and brigades to conduct more efficient and timely planning operations and allowing subordinate commanders to gain a better understanding of the commander's intent.

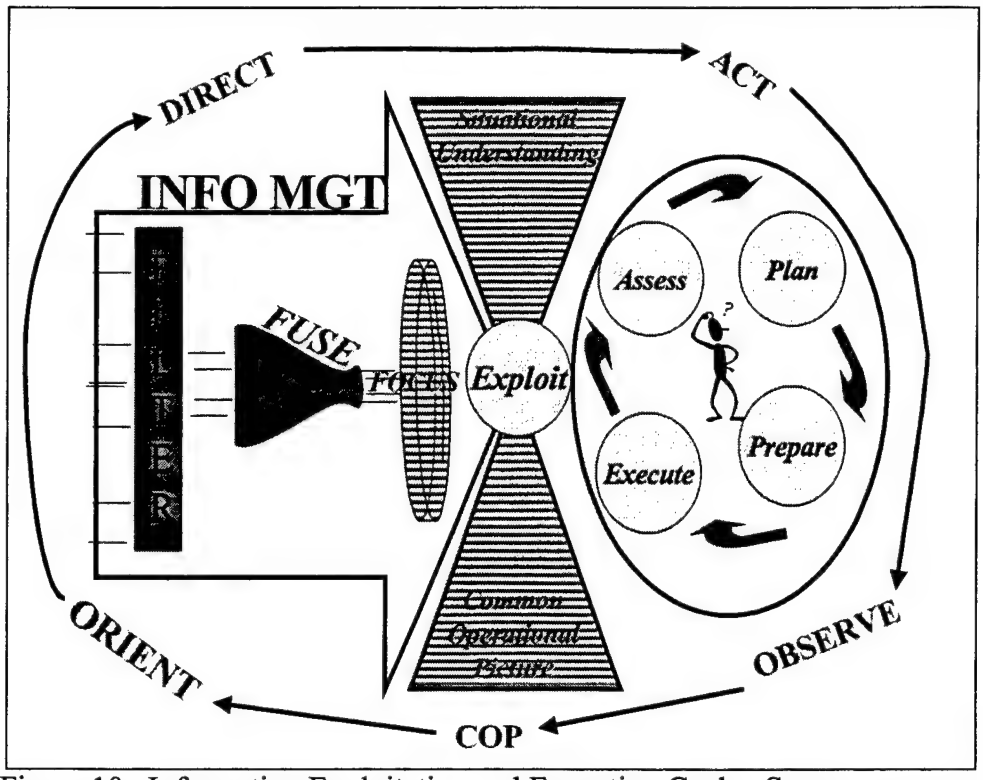

Figure 10. Information Exploitation and Execution Cycle. Source: Headquarters, Department of the Army, *Staff Leader's Guide for the Army Battle Command System* (Washington, DC: USGPO, 1994), Chapter 4.

As the division and brigade digitization increased the capacity to share data, the EXFOR (division TOC and brigade TOCs) used this capability to create virtual, electronically linked TOCs that brought distant elements together. These advantages allowed the EXFOR to organize a VTC among the Division Commander in the Dmain, the Assistant Division Commander for Maneuver and the Division Chemical Officer in the TAC, and the 3BCT Commander to develop a course of action (COA); the commander's intent and COA were readily and clearly understood by all participants in the VTC. The VTC lasted approximately one hour, but it allowed all personnel involved to accomplish a task that under normal circumstances is extremely time consuming in analog units and organizations.

Additionally, the EXFOR began to consolidate staff functions in the Dmain. The G1, G4, and the DISCOM Commander were collocated in the sustainment cell of the Dmain. The collocation was beneficial as the G4 and G1 staffs planned and tracked logistics status and capabilities. The G4 was able to conduct direct coordination with DISCOM property book officers, the division ammunition officer, and the DISCOM S2/S3 for intelligence updates. Additionally, the G1, G4, and the DISCOM Commander were able to hear all relevant verbal tactical information at approximately the same time, and begin to take the appropriate actions to allocate resources and establish support priorities.

Finally, the DAWE proved leaders were able to absorb a great deal of information without being overwhelmed. Leaders were comfortable with the visual information they received (graphs, maps, and overlays) and validated it with verbal tactical communications (radios, VTCs, and whiteboards) and messages (U.S. Message Text Format (USMTF) and Turboprep) passed by battle staff personnel. In addition to directives and orders from higher headquarters, commanders received information briefings from battle staffs in a set rhythm or during a decision cycle. "Generally, commanders were able to deal with massive amounts of digital information by focusing on the visual and verbal information and by being selective about the text information they used."[9]

Information that is displayed needs to be linked to the CCIR. The CCIR should allow the commander and battle staff to define the information needs and focus the staff on acquisition, fusion, and analysis. Information systems should focus on getting the

right information to the commander and other staff sections as quickly as possible. Unanalyzed display of information should be kept to a minimum.

Prairie Warrior 98 and 99

The Prairie Warrior (PW) series of exercises is conducted at the U.S. Army Command and General Staff College each spring as the final major training event for the students before graduation. Students are organized into command groups to role-play the sequence of command and staff action at corps, division, brigade, and battalion levels. Senior noncommissioned officers (NCOs) and soldiers who perform many of the essential support tasks within a regular unit TOC are not available. The number of officer students task organized to each staff is less than the normal Army MTOE staff billeting of comparable Army units of the same size. The students must also perform additional officer duties and key NCO tasks in order to keep the flow of information moving within the TOCs. "For all these reasons, observers have to be careful when observing a Prairie Warrior exercise not to generalize observations made in this environment to the Army at large."[10]

Prairie Warrior 98 and 99 provided the researcher an opportunity to observe ABCS digital systems in a semioperational setting. Additionally, the Prairie Warrior exercises provided opportunities to observe and develop insights on the digital TOC layouts and the flow of tactical information amongst battle staffs. Figures 11 and 12 depict the TOCs 1-10 Cav (Prairie Warrior 98) and CSGS Brigade C (Prairie Warrior 99), respectively.

Prairie Warrior 98--1-10 Cav

The 1-10 Cav, made a combined staff effort to use abridged ABCS to monitor and assess the current situation. An analog SITMAP was maintained for back up. Additionally, the analog SITMAP was utilized to see the detail on the map, and to plan future operations. The battle staff did not attempt to keep their current situation on the paper map up to date. The TOC was laid out in a very simple and efficient manner. Figure 11 depicts the 1-10 Cav layout. Three monitors provided RCP and situational understanding. The monitors were set up in front of the commander. The three RCP systems employed were: (1) Maneuver Control System (MCS), (2) All-Source Analysis System (ASAS), and (3) Forward Area Air Defense Command and Control System

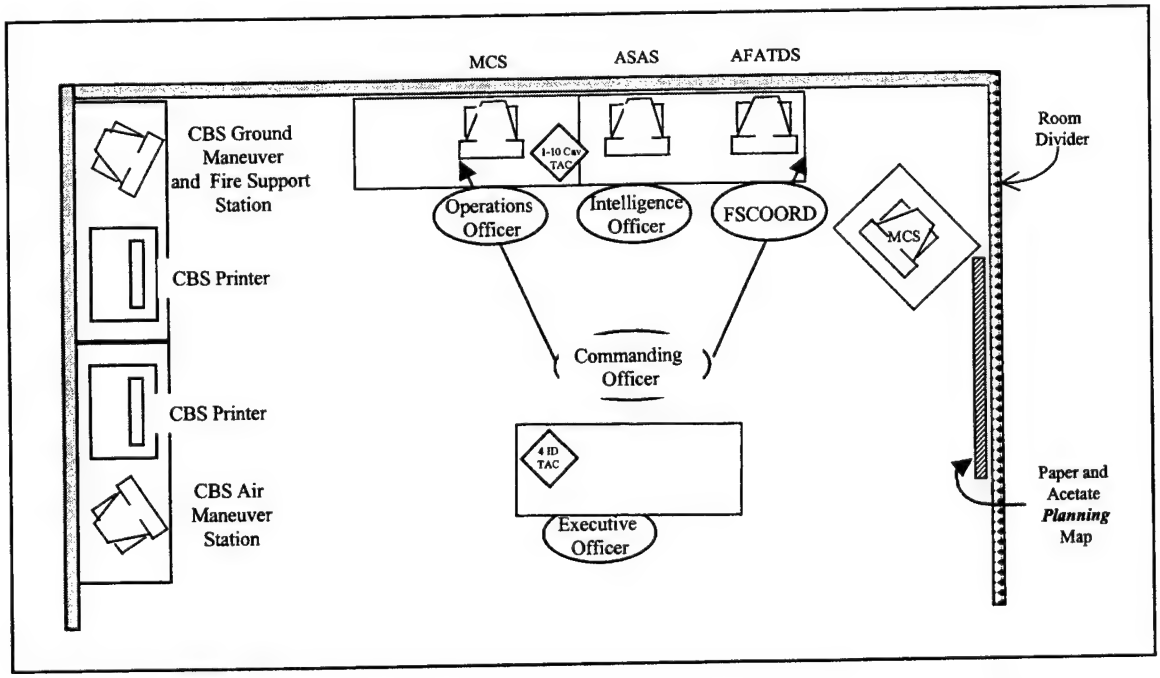

Figure 11. Prairie Warrior 98 CGSC 1-10 Cav TOC. Source: Jim Murphy, *Insights into Optimum TOC Environments* (Andover, MA: Dynamics Research Corporation, 10 August 1999), 23-41.

Favorable TOC characteristics of 1-10's TOC identified during the exercise are as follows:

1. The commander and battle staff achieved a relatively high level of shared situational understanding and Relevant Common Picture.

2. The CO was able to see each ATCCS screen.

3. Also, he had the small battle staff literally shoulder to shoulder facing the screens. While the S3 and the FSCOORD could not see each other's screens, the CO positioned himself to facilitate their coordinating with each other.

4. Most importantly, he placed the ASAS screen in the middle so that the S3 and the FSCOORD could see the S2's enemy situation, and the S2 could easily apprise them of each important change in the enemy situation.

5. By placing the squadron command net radio between the S3 and the S2, and within hearing of the FSCOORD, the group received and shared the incoming verbal tactical information.

6. The placement of the tactical radio allowed the S3 to speak to subordinate commanders and the S2 to listen to SPOT and SALUTE reports. The S2 would apprise the FSCOORD immediately of the enemy-related information.[11]

The 1-10's TOC setup had the capability to monitor the COP, orient to the CCIR, obtain a decision, and act. Again, a TOC setup that facilitates the execution of the OODA Loop during operations is seen. The TOC layout and management supported the information management process of filter-fuse-focus. The 1-10 TOC cells were able to filter-fuse-focus the particular battlefield functions for the commander.

Prairie Warrior 99 Brigade C

Brigade C was staffed similarly to 1-10 Cav. The student commander "generated a very positive, constructive interpersonal climate within the TOC throughout the exercise."[12] The challenges he and his staff faced in information flow were essentially structural:

1. Short of personnel to play the necessary support roles,

2. Short of digital and analog systems (and short of space for the few systems they had),

3. Incomplete training on the ATCCS systems (MCS, ASAS, and AFATDS),

4. Short of communications capabilities with higher and subordinate commanders,

5. Short of internal procedures for information flow (arguably, these procedures could/should have been provided by the faculty. The students should not have to develop them on their own).

6. And, critically, the ASAS system did not work correctly, making the task of updating the enemy situation almost impossible.[13]

Figure 12 depicts the layout of the Prairie Warrior 99 Brigade C TOC. The Prairie Warrior TOCs were each assigned comparable space, and each layout was distinctly different. The students chose how they set up their TOCs. Three monitors were available to provide the RCP and situational understanding. The monitors were set up in front of the commander. The three RCP systems employed were: (1) Maneuver Control System (MCS), (2) All-Source Analysis System (ASAS), (3) Forward Area Air Defense Command and Control System.

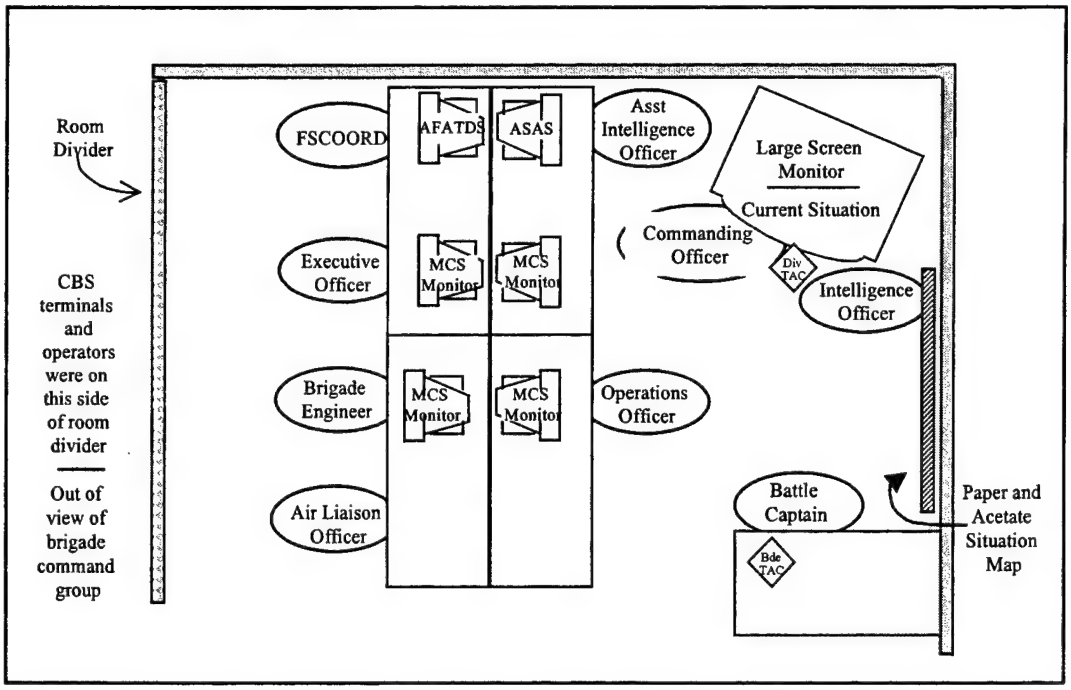

Figure 12. Prairie Warrior 99 CGSC Brigade C TOC. Source: Jim Murphy, *Insights into Optimum TOC Environments* (Andover, MA: Dynamics Research Corporation, 10 August 1999), 25-41.

The-large-screen monitor for the digital RCP was positioned in a corner. The commander was positioned facing the large screen. To the commander's right, the paper SITMAP was positioned vertically against the wall. The S-2 and a Battle Captain maintained the paper SITMAP.

A detailed study of figure 12 reveals that the XO, the FSCOORD, the ALO, and the brigade engineer were located across a table from the paper SITMAP and could not see the digital RCP. Additionally, the S-3 and the assistant S-2 had their backs to the digital RCP and SITMAP.

Only the CO, the S3, the S2, the assistant S2, and the Battle Captain had stations close to either the large screen digital RCP or the paper SITMAP. The S-3 and assistant

S-2 had their backs to the paper SITMAP and the commander. Additionally, the digital large screen was not utilized to provide the RCP and situational understanding.

Characteristics of Brigade C's TOC identified during the exercise are as follows:

1. On at least three occasions during a developing situation, the following was observed: the commander, the S3, and the S2 would be clustered in front of the analog map. The commander would have a question related to artillery, engineers, or fixed wing air. The FSCOORD, the engineer, or the ALO, or all three would maneuver around their workstations and the table to get over to the situation map. They would listen to the question, and if they needed information from their workstation, would go back to get it. In the meantime additional information might be received over the surrogate tactical radio. The "battle captain" would pass it verbally to the CO, the S3, and the S2, still clustered in front of the vertical map. Frequently, the information was of interest to two or more supporting unit officers. If the supporting unit officers were in the second ring of the cluster in front of the situation map, they would receive the information and assess it with respect to their on-going support tasks and the current capabilities of their units to provide the support. But one or two others would not receive it. Thus, their input was missing and the capability of their units to support the decision did not appear to be factored into the assessment.

2. At no time did all "battle staff" members share the same RCP. More interesting, at no time was the situation observed where all battle staff members were able to hear, or be apprised by the "battle captain" of information coming over the tactical net from subordinate unit commanders.

3. On two occasions, the CO faced away from the map, looking across the space at the battle staff and supporting unit representatives to ask in a loud voice for combat information. One or more of the battle staff officers would be so intent on their ATCCS screens that they would not hear him.

4. The configuration of the TOC (aggravated by the short-handedness) prevented the CO from having easy access to the specific knowledge the supporting unit officer had of his field. The configuration precluded the CO asking for it easily, or the supporting unit officer volunteering it upon hearing a particular item of critical information.[14]

The Brigade C TOC setup did not allow the battle staff to facilitate the execution of OODA Loop activities. Brigade C's TOC setup did not have the capability to monitor the COP, orient to the CCIR, obtain a decision, and act. The setup hindered the OODA Loop and information sharing within the TOC. Additionally, the TOC cells were unable to filter-fuse-focus the particular battlefield functions for the commander. By the time the student commander and staff realized the problem, the brigade was committed in a series of engagements, and it was too late to reconfigure the TOC.

The Prairie Warrior exercises provide three fundamental points about TOC layouts.

1. Timeliness of situation updates. The positioning of digital and analog current situation" SITMAPs must be complementary. The primary system in any given situation probably should be the system that provides the timeliest information and is the easiest to update.

2. Verbal information is as important as visual information to the battle staff. Prairie Warrior (as well as the Force XXI DAWE) exercises prove that the entire battle

staff should have access to verbal tactical information at essentially the same time. Verbal tactical information flows into a TOC through multiple channels, primarily radio nets and telephones. This information must be filtered and passed to the entire battle staff to be incorporated into the OODA Loop.

3. The battle staff is essential to decision-making. The commander must have all his battle staff present and available for immediate participation in the OODA Loop.

A Rand study based on observations of CPXs and Operation Joint Endeavor provides three principles that appear to be requisites to effective TOC operations:

1. The TOC should be organized to consolidate major functions and shorten communications paths among the combat functions (verbalization between the battle staff). Task Force Eagle consolidated all of the battle staff into one TOC. The physical layout of the Dmain was essential in facilitating both horizontal and vertical dissemination of information within the task force. The TOC is built around the Division Situation Map. The Task Force Eagle commander and his battle staff surrounded the SITMAP on a three -iered scaffold system in the shape of a horseshoe. Configuration of the Task Force Eagle TOC facilitates horizontal and vertical synchronization and coordination of the staff.

2. Battle Update Briefing (BUB) and/or Commander's Update. There needs to be a single information source to which personnel can refer if they need basic information in a hurry. Additionally, the structuring of command and control around a decision cycle or battle rhythm helps to create a shared purpose and bring the battle staff together at a number of meetings. Power point slides have become the integration point for command information. There is a BUB or Commander's Update every day. Center of attention is

the RCP. The BUB or Commander's Update should be next to the RCP or on a separate monitor. The RCP is utilized to brief the current enemy and friendly positions. Either a proxima can project the BUB and the RCP onto a screen, or a series of monitors in racks can be used. A public address system with several microphones should be used to ensure participants are heard. A separate microphone should be positioned on the commander's table for his use. Additionally, subordinate units are linked to the BUB or Commander's Update via VTC. Upon completion of the briefing, the BUB or Commander's Update can be posted to the unit's web page. Each staff section and LNO is responsible for the preparation and updating of his slides. Appendix B is an example format of a Commander's Update that provides a single source of basic information required for battle staff. Additionally, this power point presentation can be looped and continually played on the large screen inside the TOC in accordance with the RCP to maintain situational understanding and provide the single information source to which personnel can refer if they need basic information in a hurry.

3. Commanders need to spend time with personnel conducting planning. Knowledge is distributed among specialists, each of whom understands and communicates his or her portion of the situation or commander's vision. Distributed knowledge is necessary and required in today's and future warfare, because a single individual cannot grasp all of the complexities and information available in modern warfare. "The commander's role is that of generalist; he must leave the details to his staff."[15]

7th SFG(A) Relamago Rojo (R3) Exercise

R3. The 7th SFG(A) deployed the SFOB as ARSOTF headquarters in exercise R3 from 15 February through 15 March 1999. The R3 combined USACOM's JTFEX 99-1 / Theater Missile Defense Initiative with Joint Readiness Training Center Rotation 99-05. ARSOF worked under the OPCON of SOCACOM in its JSOTF configuration. The SOCACOM JSOTF in turn worked under a combatant command (COCOM) relationship with CINC Telari (USACOM) through the designated JTF commander (Commander, US 2d Fleet).

The R3's Battlestar was designed to consolidate the battle staff and combat function and to command and control using abridged ABCS digital systems. Figure 13 depicts how the Battlestar layout focused on the big screen display that provided the visual RCP. Again, the physical layout of the Battlestar was essential in facilitating both the horizontal and vertical dissemination of information within the task force. The Battlestar was built around the large-screen display for the RCP. The battle staff was positioned around the SITMAP in two rows in a horseshoe configuration. Configuration of the Battlestar facilitates horizontal and vertical synchronization and coordination of the staff. The Battlestar concept broke the ARSOF traditional doctrine paradigm of separate functionally aligned centers by consolidating primary and augmenting battle staff personnel in one area. The Battlestar concept demonstrably increased situational understanding, staff integration, and information dissemination. The large-screen display provided the RCP. It must be noted that all battle staff personnel had access to the RCP. The RCP systems capable of being displayed included:

1. Maneuver Control System (MCS)

2. All-Source Analysis System (ASAS)

3. Global Command and Control System - Army. (GCCS-A)

4. VTC

5. Commander's Update

6. ARSOTF synchronization matrix

7. SIPERNET or ARSOTF web page

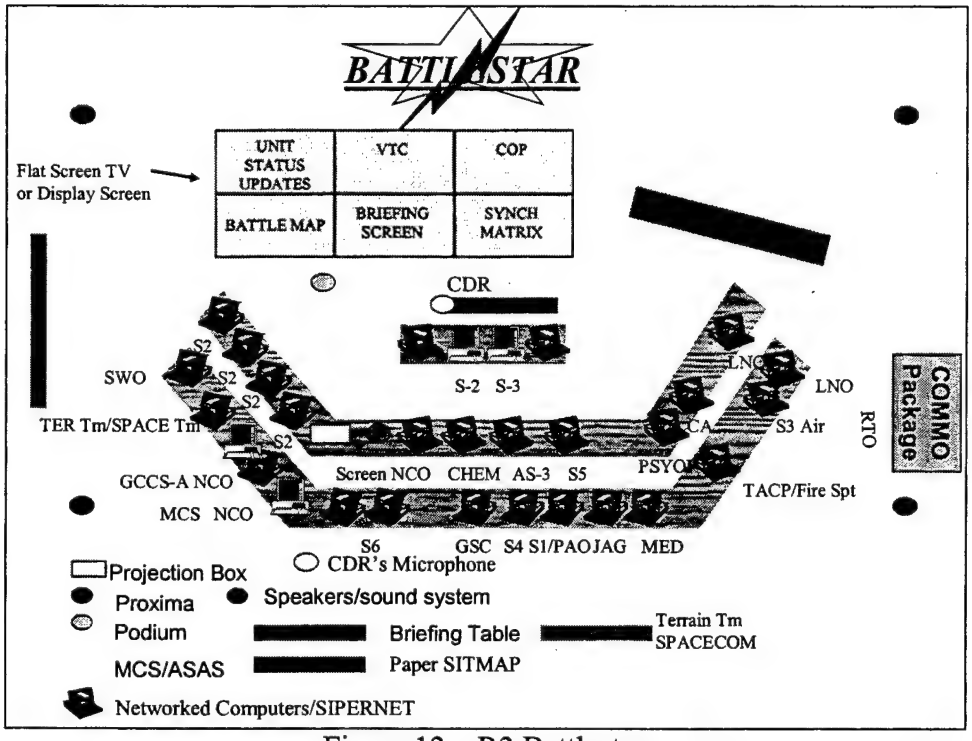

Figure 13. R3 Battlestar

Characteristics of R3's Battlestar identified during the exercise are as follows:

1. Creation of a Wide Area Network utilizing joint and service C4I systems. SFOB 07 demonstrated the exponential "value added" of interactive joint and service automated C4I systems. The ARSOTF successfully harnessed satellite links to create a

C4I WAN connecting it with two FOBs and the JSOTF. Staff components successfully accessed the WAN via deployable LANs at each headquarters site. The ARSOTF demonstrated that Army service battle command systems, such as MCS and the ASAS could automatically merge with the joint standard C2 Global Command and Control System (GCCS). The ARSOTF used the GCCS-A gateway to connect joint and service C4I systems--a first for the Army. Participating SOF headquarters did not field comparable automation suites. The ARSOTF had a more robust capability than did the FOBs or the JSOTF. The resultant automation asymmetry caused disconnects in timely information flow.

2. Establishment of a deployed LAN on the SIPERNET. The use of one SIPRNET LAN for the Battlestar was extremely beneficial to the entire SFOB as well as the component FOBs. The use of this LAN allowed all intelligence messages and reports to be posted so that all personnel rather than just intelligence personnel could readily access them. This, coupled with the fact that the intelligence personnel were physically located within the OPCEN, versus in the T-SCIF, made intelligence much more readily available to the battle staff. Additionally, all battle staff could coordinate via electronic mail with their counterparts at the FOBs, JSOTF and JTF.

3. Consolidation of battle staff. The concept of bringing all functions under one roof exceeded the most optimistic expectations. The Battlestar in effect created one synergistic "Fusion Cell from Hell." Every function performed, from operations to force protection, was immediately and continuously cross-referenced among all combat function or BOS. The key members of the battle staff were in easy speaking distance of the commander, S2, and S3, and, equally important, one another. All persons in the

Battlestar could hear the transmissions on the ARSOTF tactical net and loudspeaker system. The battle staff personnel had assistants and subordinate personnel monitoring combat information flowing into the section work area. These persons would bring the incoming verbal information forward to be filtered by the principal staff member who, when the information was relevant to the current situation, would announce it to others in the Battlestar. Additionally, the Battlestar concept also allowed the SF headquarters to do more with less augmentation faster. It is the ultimate expression of multi-functionality.

4. Commander's Daily Update. The Commander's Update format was established by the S3 personnel and placed on a shared drive. Each staff section was given a folder with the specific staff section slides that linked to the master briefing, which was continually being displayed on the large screen display. As information changed and was reported, the appropriate staff section would go to its folder and update its slides, which automatically updated the linked master presentation displayed on the large screen. The Commander's Update provided a single information source to which all personnel could refer if they need basic information in a hurry. Upon completion of the update, it was posted to the ARSOTF web page. The battle staff choreographed updates with each other, and with all available information/AV systems (GCCS, MCS, slides, etc) each morning to provide the best possible picture to the commander.

5. Audiovisual systems. The Battlestar used a Proxima, which has the ability to project one to six displays on a white screen. This device allowed the SFOB to display several projections concurrently. Its limitations were primarily resolution. Although it was a readable picture, resolution requires upgrading. A high-resolution screen/AV

capability is required to support graphic information systems and displays. A hard, clear screen may be best. The SFOB advance party personnel built Battlestar around this display. There was trouble seeing GCCS and MCS on the portable, flexible screen, although this screen was large, inexpensive, and easy to transport. The bottom line is the big screen must be clearly readable, in a reduced illumination but still work-capable environment, and this requirement may need to drive Battlestar construction and location since it will be the focus of the Battlestar.

6. ARSOTF web page and paperless message center. The Operations Center Sergeant Major worked directly with the S-6/Communications Director to establish a paperless information center that would route incoming and outgoing messages to all recipients in the timeliest manner. The S-6 emplaced a secure LAN and SIPRNET with capability to talk REDNET to the world. The S-6 then utilized automation to send all incoming messages directly from the CAMPS AUTODIN machine to the message center and all outgoing messages directly from the message center to the CAMPS via email. This alleviated the need to carry computer disks and hard copy to each station. The S-6 also set up a WEB page for the SFOB that was accessible by both FOBs and the entire SFOB. The message center input all messages on the web page, utilizing Microsoft Access, under Incoming or Outgoing Messages as they applied; these messages were listed with a DTG and Subject, which facilitated all staff members in rapid screening of messages or finding a particular message. The Message Center tracked over 3,000 messages without a single lost message and ensured all recipients received the information needed. Incorporation of the database on the web page maintained an overall better informed staff, which ensured no missions were dropped and all avenues and

courses of action were facilitated more efficiently. The only paper copy that was maintained was the Commander's Read Book. The entire exercise was saved on two compact disks.

7. The ARSOTF was more robustly equipped, configured, and prepared with Joint, Army, and generic automation capabilities than were the JSOTF (SOCACOM) and the two FOBs. The SFOB could move information, but it inadvertently overwhelmed subordinate and higher headquarters. The impact on the JSOTF was not as important as the impact on FOBs 71 and 201. While not a mission stopper, when leveraging automation all stations in the net need to have equal capabilities. More important, all stations need to have an equal understanding of how the traffic will be moved.

Principal Findings

The principal findings are in table 4.

Table 4. Principal Findings

Visualization	1. Commanders are able to deal with massive amounts of digital information by focusing on the visual and verbal information and by being selective about the text information they receive. 2. Information that is displayed needs to be linked to the CCIR. The CCIR should allow the commander and battle staff to define the information needs and focus the staff on acquisition, fusion, and analysis 3. In cases where the commander has the latitude to make a selection, it is recommended that the primary "battlefield visualization" system--digital or analog--be determined based upon the speed with which the unit's friendly situation can be updated. Digital system should be used as the primary system to provide for battlefield visualization--BUT retain the analog system as backup. 4. All battle staff members must be able : (1) see the same information at the same time, and (2) focus at the same time on specific information being pointed out by a briefer or speaker.

Verbalization	All battle staff personnel members must be able to hear all relevant verbal tactical information at approximately the same time. Verbal tactical information flows into a TOC through multiple channels, primarily radio nets and telephones. Visitors also insert it and persons returning to the TOC from visits elsewhere on the battlefield. Persons in the TOC introduce some after watching visual information, listening to and discussing other verbal information, analyzing it, and then providing their insights.
RCP /SITMAP	1. The TOC should be built around the visual COP display. The battle staff should be positioned around the RCP/SITMAP on a tiered scaffold system in the shape of a horseshoe. 2. All battle staff personnel must have access to the RCP/SITMAP. 3. The RCP systems capable of being displayed as a minimum include: a. Maneuver Control System (MCS) b. All-Source Analysis System (ASAS) c. Global Command and Control System--Army (GCCS-A) d. VTC e. Commander's Update f. ARSTOF synchronization matrix g. SIPERNET and/or ARSOTF web page
Consolidation of battle staff/ Assigned Places in the TOC	1. The commander, battle staff principals, and the supporting unit liaison officers should have assigned places inside the digitized TOC. This permits all officers with responsibilities for portions of the plan to assess information being discussed in the TOC, and to participate in the sharing and discussion of information in the TOC. This assigned spot or location is the officer's principal place of duty within the TOC. 2. The battle staff is essential to decision-making. The commander must have all his battle staff present and available for immediate participation in the OODA Loop. 3. Consolidation of battle staff facilitates horizontal and vertical synchronization and coordination of the staff. 4. Key members of the battle staff must be in easy speaking distance of the commander, S3, and S2, and, equally important, one another. 5. The primary battle staff personnel have assistants or back-up personnel monitoring combat information flowing into the section work area. These persons would bring the incoming verbal information forward to be filtered by the principal staff member who, when the information is relevant to the current situation, will announce it to others in the TOC.

Location of the CDR	1. Assuming the RCP is being fed to a large screen display or monitors in racks, the commander must be positioned facing the RCP display. Analog SITMAPs can be positioned to the side of the commander for backup purposes and to analyze the terrain. 2. The commander must have a clear view of both the digital and analog SITMAP. 3. A microphone (linked to a PA system) should be positioned on the commander's table to ensure he is heard and to ask questions or provide guidance.
Location of S-3 and S2	1. TOC operations are better facilitated when the S2 and S3 are positioned next to each other. 2. TOCs where the S2 and S3 are centrally located are normally more functional. This technique facilitates more efficient message dissemination, integration, and synchronization of resources.
Battle Update Brief/CDR's Update	1. There needs to be a single information source to which personnel can refer if they need basic information in a hurry. 2. The structuring of command and control around a decision cycle or battle rhythm helps to create a shared purpose and bring the battle staff together at a number of meetings. 3. A commander should be able to get a complete situation report from looking at the Commander's Update and RCP without asking the shift officer a question.
WAN/LAN	1. The S6 establishes a Wide Area Network utilizing joint and service C4I systems. 2. The S6 harnesses satellite links to create a C4I WAN connecting SFOB two FOBs, the JSOTF, and JTF. 3. Battle staff personnel access the WAN via deployable LANs at each headquarters site. 4. Battle staff personnel merge Army service battle command systems such as the Maneuver Control System (MCS) and the All Source Analysis System (ASAS) with the joint standard C2 Global Command and Control System (GCCS). 5. The S6 use the GCCS-A gateway to connect joint and service C4I systems.
Web Page	1. A web page that is accessible by subordinate units, higher headquarters, and supported units should be established. 2. The message center inputs all messages on the web page, utilizing Microsoft Access, under Incoming or Outgoing Messages; these messages are listed with a DTG and Subject, which facilitates all staff members in rapid screening of messages or finding a particular message.

	3. Incorporation of the Database on the Web page maintains an overall better informed staff, subordinate units, supported units and supporting headquarters. 4. The Commander's Update or Battle Update Brief is posted daily to the web page. 5. The ARSOTF synchronization matrix and mission folders with planning documents is posted daily to the web page daily. Note: the LAN manager or S6 can restrict access to documents, folders and databases as required. 6. Intelligence messages and reports which all personnel can readily access them, versus just intelligence personnel, are posted daily to the web page.
Collaborative Planning Tools	1. Virtual, electronically linked TOCs that bring distant elements together should be created. 2. VTCs amongst participants in an operation should be organized to develop, plan and ensure everyone understands the commander's intent. 3. The VTC and MCS white board allow the personnel involved to accomplish quickly planning and decision-making tasks that are extremely time consuming in analog units and organizations.
Headsets	1. Primary battle staff personnel should have headsets with microphones. They should be able to monitor the current situation on the unit command net. 2. Supporting unit liaison officers should be able to monitor the current situation on the unit command net, and they should be able to monitor their own unit's nets. 3. Primary battle staff personnel should be able to switch to an internal channel to communicate with other persons working in their staff or other staff sections within the SFOB.

Summary

This analysis synthesizes insights gained over three AWEs and one SOF JCS exercise into a set of tentative guidelines with which to organize Special Forces group and battalion TOCs as the Army continues its march to a fully operational Army Battle Command System (ABCS). The objective of the digital TOC is to achieve the highest level of situational understanding possible amongst the commander and battle staff in

order to facilitate efficient exchange of tactical information and generate timely decisions.

"At the heart of the insights is the recognition that the colonels are experienced enough to command, but not expert enough across all battlefield operating systems to exercise 'battle command' effectively without the support of others. The Army provides the colonel the staff and the supporting unit liaison officers with sufficient competency or proficiency to augment his strengths and buttress gaps in his knowledge."[16]

The future of battle command in the twenty-first century will require organizations to achieve a level of individual and organizational effectiveness beyond what the Army currently has. Part of the solution is determining the systems that provide information needed, when needed, and in the format required. Information technologies and the RCP obviate the need for separate and elaborate staff facilities. Commanders and their staffs must become comfortable with ABCS technology, decision-making aids, and simulations that will help provide direction and maintain command and control.

Finally, the commander must provide the battle staff access to the same relevant visual and verbal information he receives at the same time he receives it. Consolidation of battle staff personnel and combat functions facilitates horizontal and vertical synchronization and coordination of the staff increasing the probability that the whole of the digital TOC will be greater than the sum of its members.

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[1]Jim Murphy, *Insights into Optimum TOC Environments* (Andover, MA: Dynamics Research Corporation, 10 August 1999), 15-41.

[2]Ibid, 15-41.

[3]Ibid.

[4]Ibid., 16-41.

[5]Ibid.

[6]Ibid., 17-41

[7]Ibid.

[8]Ibid.

[9]U.S. Army Training and Doctrine Command Analysis Center, *Division XXI Advanced Warfighting Experiment (DAWE)*, Final Report (Fort Leavenworth, KS: TRADOC, July 1998), 40.

[10]Ibid., 22-41.

[11]Ibid., 23-41.

[12]Ibid., 24-41.

[13]Ibid., 25-41.

[14]Ibid., 26-41

[15]James P. Kahan, Robert D. Worley, and Cathleen Stasz, *Understanding Commanders Information Needs* (Rand, June 1989), 23.

[16]Murphy, 40-41.

CHAPTER 5

CONCLUSION

Introduction

This research clearly demonstrates that *placement of key battle staff personnel* in a TOC is important and the prerequisite for the TOC layout to support battle staff personnel capabilities to monitor and assess visual and verbal information flowing into and out of the TOC. The findings suggest that certain configurations facilitate quicker, better decision making. Equipment alone does not guarantee success. Lastly, this research finds that digital systems integrated into a TOC with a high degree of organization and a layout that does not segregate personnel and sections are important. The goal of the digitized TOC or Battlestar is to achieve the uppermost level of situational understanding among the commander and the battle staff in order to make possible efficient discussion of information and timely decision making. In addition to the research finding of placement of key battle staff personnel, the research clearly demonstrates that:

1. All battle staff members must be able to see the same information at the same time.

2. All battle staff personnel members must be able to hear all relevant verbal tactical information at approximately the same time.

3. The TOC should be built around the visual COP display and the battle staff should be positioned around the RCP/SITMAP on a tiered scaffold system in the shape of a horseshoe.

4. All battle staff personnel must have access to the RCP/SITMAP.

5. The commander, battle staff principals, and the supporting unit liaison officers should have assigned places inside the digitized TOC.

6. There needs to be a single information source to which personnel can refer if they need basic information in a hurry.

The Information Revolution is about both technology and organization. While technology is energizing the information network, the Army must not ignore the importance of organizational innovation in accordance with the new information technology. Certainly, every revolution in military affairs has involved interaction between technology and organizational design that affects who wins and loses. Today, organizations that want to compete against asymmetric threats will have to adopt commercial information systems, communications, weapons, strategies, and organizational designs networked utilizing Joint and Service C4I systems as their networked spinal backbone. The Army must learn to draw on networked Information Age design principles required to operate in nonhierarchical, networked, and secured enclaves. These principles depend upon Information Age advances, but, more importantly, on a willingness to innovate and adapt organizationally. It is not necessary to replace all traditional hierarchal structures. They will remain for peacetime command and control and training. Rather, the trend is to blend networked nonhierarchical structures, while retaining centralized planning and decentralized execution.

Advances in information technology are creating conditions for asymmetric and asynchronous battlefield environments. Currently, the Army Battle Command System is the Army's answer for sharing information in this new environment. ABCS and Joint C41 systems are designed to share information among friendly units faster than the

enemy. This nonhierarchical information sharing ability provides the opportunity to influence and operate within the enemy's decision cycle with greater lethality. This information power in the hands of commanders and battle staffs provides enhanced situational understanding and information superiority.

Improved information integration and staff integration speeds the decision cycle by processing and distributing information more quickly, thereby creating an advantage that can be exploited. The Army plans to achieve improved situational understanding through the digitized family of ABCS. The goal of ABCS is to provide the commander near-real-time information on friendly unit positions and status and a current enemy picture, and deliver them via digital communications and computer networks. This real-time situational understanding should allow commanders to make faster and improved decisions, better control units, enhance synchronization of efforts, and achieve decisive victory.

The high ground is information. In the past we organized around killing systems, feeding the guns. The force of the future must be organized around information—the creation and sharing of knowledge followed by unified action based on that knowledge which will allow commanders to apply power or forces effectively. Information will be the means to a more powerful end.

"A commander's tactical and technical proficiency will carry his command only so far during current operations."[1] Traditionally, the commander is the most-experienced person in the unit and is the person empowered with decision-making authority. The commander has less proficiency in other branches and battlefield functions outside of his basic branch. He does not have the expertise to fully understand the implications of each

element of information entering into the TOC as it pertains to the different staff functions and combat functions.

The commander requires the tactical and technical proficiency that battle staff personnel possess across the spectrum of the combat functions and their detailed knowledge of the plan. But the commander has additional needs. The battle staff must facilitate the commander's understanding of the situation by providing filtered input with which the commander can make his decision and shape the battlefield in accordance with his improved situational understanding. To accomplish this the battle staff must be present when information is received. The battle staff needs to see and hear information in order to provide the commander appropriate input from their branch or combat function.

The commander must utilize, integrate, and configure correctly the tactical and technical proficiency available to him from other officers and noncommissioned officers within his TOC. The observations identified during the AWEs, Prairie Warrior, and JTFEXs confirm that the placement and configuration of key battle staff personnel in a TOC are important to optimize input to the commander. The findings of this thesis suggest that certain configurations facilitate quicker, better decision making.

With increasing levels of digitization and speed of information, guidelines must be observed in the layout of the TOC to filter information for the commander and establish standardization of critical functions. "Neither of these worthy ends impinges on the substance of battle command, that is, the commander knowing ***if*** to make a decision, then ***when*** to make a decision."[2] The insights can be generalized and applied across the Army. At no point in any of the exercises did a commander acknowledge, suggest, or try

to execute the decision-making process by himself. It is impossible. Today's situations and battlefield conditions remain too fast paced for one person. It is clear that the battle staff is essential to the decision-making process for all commanders, battalion through corps level. The commander, no matter what type of unit, must have his battle staff (organic, augmenting and supporting) present for immediate participation during planning and current operations. The OODA Loop cannot be effectively implemented without a TOC and battle staff organized in an efficient manner around common verbal information and visual displays.

The physical layout of a TOC has significant impact on how effective the battle staff is and the sum of the whole TOC operates. The physical layout of the TOC contributes to how efficiently messages and information are passed from one staff section to another and how effectively section and battle staff personnel communicate with one another. Observer-controllers at all CTCs have observed numerous TOC techniques that worked well (for both digital and analog units) and those that did not work well. All of the observed TOCs that performed effectively had a high degree of organization and did not segregate staff functions. Observation and findings on TOC layouts developed during this research apply equivalently to both digitized and analog units. No matter what type of unit, a high degree of organization, to include resources available, and layout that do not segregate sections facilitate efficient message dissemination, integration, and synchronization of resources and operations.

The Information Age Battlefield Requires a Commander and a Battle Staff

The thesis now returns to the questions it proposed to answer. What systems and staff functions are required for centralization and consolidation, manipulation, and presentation of decision-making data in the twenty-first century?

Insights and findings documented in chapter 4 reveal why it is imperative to have the commander and the battle staff receiving the same visual display and verbal information at the same time in an amalgamated, efficient, and organized TOC layout. The commander is proficient in his branch or functional area and is the most experienced officer in the unit. Predictably, the commander has experience, but he is not the expert within the additional combat, combat support and combat service support branches that his battle staff brings to the TOC and the decision-making process. As expected, battle staff personnel, by branch and functional area, are more proficient than the commander in understanding and applying information and knowledge in accordance with the task, purpose, and capabilities of their branch or functional area. Even though the commander may have a better grasp of how the entire concept of the operation or campaign plan comes together, he does not have the mental ability to filter, fuse, and focus all potential information that flows into today's TOC, and simultaneously asses its implications on the plan in order to make a timely decision. Battle staff personnel are essential to filtering, focusing, and fusing information in accordance with CCIR. Additionally, the integration of the commander and the battle staff into one amalgamated, efficient, organized layout results in a greater capability to filter, fuse, and focus information than if the same group or TOC is decremented by as much as one person. Similarly, when one or more battle

staff personnel is not present or is segregated to receive information and participate in the OODA Loop, decisions are likely to be slower, because the missing personnel have to be brought into the information exploitation and execution cycle and briefed on what they missed, or less comprehensive. Figure 14 (Recommended ARSOTF C4I Systems and Battle Staff) outlines the recommended minimum digital battle staff personnel configured around the COP in one amalgamated, efficient, and organized layout.

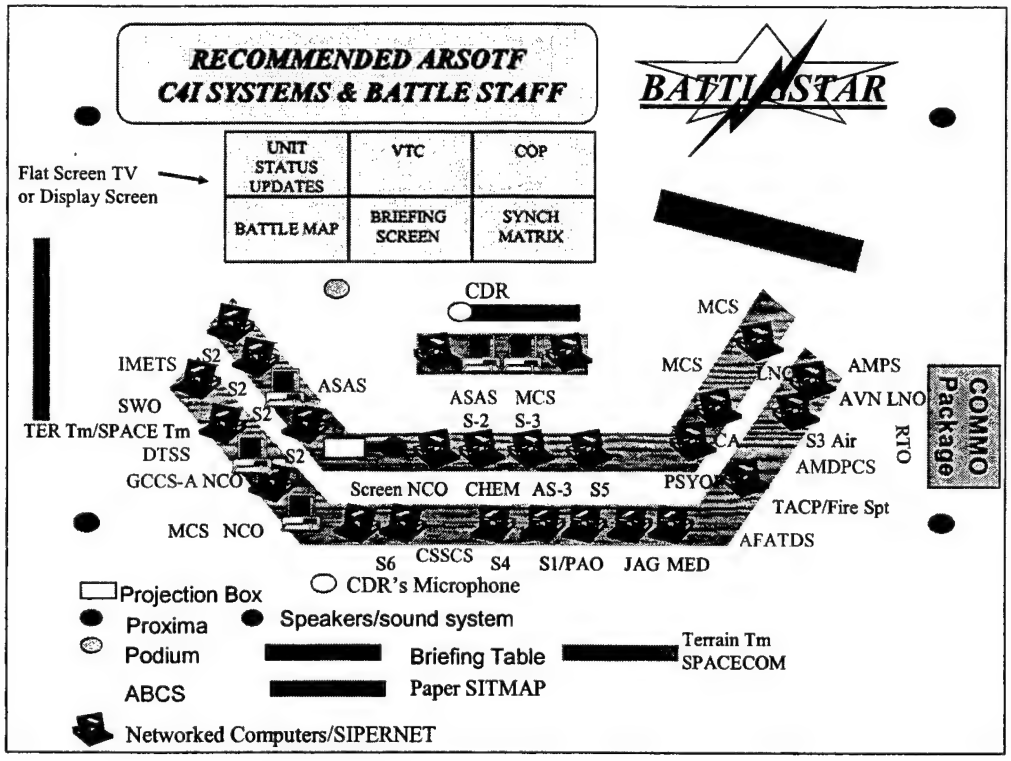

Figure 14. Recommended ARSOTF C4I Systems and Battle Staff

Applying Joint and Service C4I Systems for Information Superiority

What systems and staff functions are required for centralization and consolidation, manipulation, and presentation of decision-making data in the twenty-first century?

1. Does the Battlestar improve information dissemination?
2. Does the Battlestar improve the commander's situational understanding?
3. Does the Battlestar improve battle command?

While not a specific principle, this research clearly finds that with VTC technology and white boards, rehearsals will be conducted with battle staff rehearsing their key tasks and actions from distant TOCs or remote locations. Bringing leadership together at one location is no longer required. Joint and service C41 systems and complementary Information Age technologies allow TOCs to spread out farther for force protection without having to worry about colocating next to higher and subordinate units headquarters for meetings. "The battle space has expanded in all three spatial dimensions. Since the 1973 October War, for example, the area of operations occupied by a deployed force of 100,000 soldiers has expanded by an order of magnitude in both depth and breadth. In part, this extraordinary expansion has been the result of--directly and indirectly--improved information flows."[3]

ABCS and GCCS provide simultaneity (near real-time, instantaneous, and synchronized information flow and operations) from an expanded battle space and or remote and isolated locations. The simultaneity allows SFOBs and FOBs to plan, prepare, launch, and recover SOF from isolated, remote staging areas on the battlefield.

This nonlinear application of SFOBs and FOBs allows SOF to simultaneously support the JTF commander and component commanders in accordance with the campaign plan.

"The future battlefield will be characterized with what is referred to as a "nester", and defined as units that are resting and preparing quietly for the next strike against the enemy. A sort of mid-to-high-intensity guerilla warfare tactic that advances, strikes, withdraws, and disappears based on the commander's intent."[4] The nester deploys to a remote, isolated location in the theater or JAO and begins planning and preparations; the entire time digitally connected to higher, subordinate and other deployed forces. Joint and service C41 systems enhance SFOBs and FOBs that can deploy, strike, and operate independently anywhere in the world while maintaining virtual near-real-time communications with higher headquarters, subordinate units, and other deployed forces. See figure 15, Recommended ARSOTF C4I Systems.

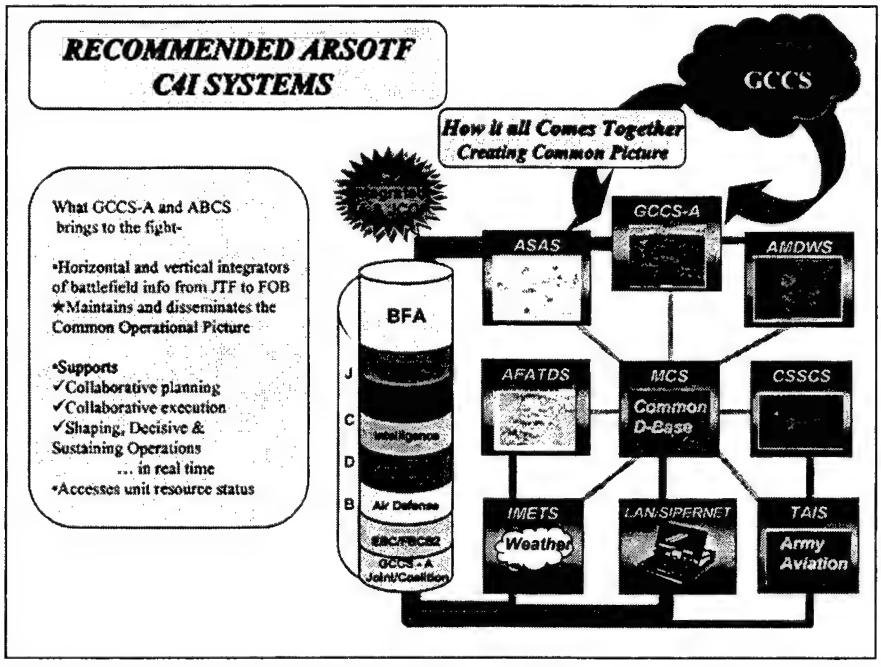

Figure 15. Recommended ARSOTF C4I Systems

Digitized SFOB and FOB require six components of ABCS: Global Command and Control--Army (GCCS-A), Maneuver Control System (MCS), Advanced Filed Artillery Tactical Data System (AFATDS), Air and Missile Defense Planning and Control System (AMDPCS), All Source Analysis System (ASAS), and Combat Service Support Control System (CSSCS). Additional systems required include the Integrated Meteorological System (IMETS), the Digital Topographic Support System (DTSS), and the Aviation Mission Planning System (AMPS). The sum total of these systems fuses together ARSOTF assets and command and control efforts from individual operational detachments to the joint strategic level. GCCS-A provides the SFOB or FOB with the required interface with GCCS and the joint forces and other services. MCS, AFATDS, ASAS, and CSSCS provide SFOB and FOB a common database and sources, multiple arrays of sensors and collection platforms, visual displays of the battlefield situation(s), a variety of automated planning and decision aids, and interface and links to Army corps through battalions.

These recommended systems employ source data tailored to support specific information requirements, planning, and the use of decision support tools by commanders and digital battle staffs to meet mission requirements. They provide SFOB and FOB commander's access to all the battlefield operating systems or combat functions to support MDMP. Consequently, these recommended systems provide SFOBs and FOBs intelligence products, situational maps, battlefield resource reports, spreadsheets, presentation graphics, map overlay tools, weather forecasting, and decision aids all continually evolving to a better informed and prepared staff. Effectively, these collaborative tools provide the links to joint and combined systems, such as the Air Force

Tactical Air Control System (TACS), Automated Planning System (AMPS) and Navy Joint Maritime Command Information System (JMCIS), required for SFOBs and FOBs to support JTFs and component commanders.

Roles and Responsibilities

The following section provides a brief introduction to each of the minimum recommended consolidated battle staff member's role in the digital TOC. The intent is to briefly address the digital system they primarily use.

Executive Officer or Chief of Staff. The executive officer or chief of staff is responsible for directing the execution of battle staff activities. He exercises overall responsibility for managing the C4I systems by:

1. Directing the creation and distribution of the COP, to include the procedures for updating enemy and friendly situations.

2. Coordinating procedures for VTC and whiteboards as required.

3. Providing command guidance for implementing ABCS procedures.

4. Ensuring ABCS filters satisfy the CCIR, collection plans, and networks that disseminate the COP and information.

5. Monitoring LNOs with analog units, joint or allied forces for their integration into the COP as required.

Table 5. Executiver Office or Chief of Staff

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	XO/Chief of Staff	Access to all systems LAN/SIPERNET.
FOB	Battlestar	S1	Access to all systems LAN/SIPERNET.

S1. The S1 is the principal staff officer for all matters concerning military and civilian resources that include personnel readiness, personnel services, and administrative headquarters management. Additionally, the S1 must be prepared to function as the unit public affairs officer.

Table 6. SI

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S1/J1	CSSCS. Use MCS to establish and maintain the COP as the CDR dictates. LAN/SIPERNET.
FOB	Battlestar	S1	CSSCS. Use MCS to establish and maintain the COP as the CDR dictates. LAN/SIPERNET.

S2. The S2 is the principal staff officer for all intelligence matters. Specific duties and responsibilities include, but are not limited to, directing, collecting, analyzing, disseminating, and presenting enemy information. The S2 supervises and monitors ASAS and the ACE or ACT operations and is responsible for the enemy information and environmental information displayed in the COP.

Table 7. S2

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S2/J2	ASAS, IMETS and DTSS. Use ASAS to establish and maintain the COP as the CDR dictates. LAN/SIPERNET.
FOB	Battlestar	S2	ASAS, IMETS and DTSS. Use ASAS to establish and maintain the COP as the CDR dictates. LAN/SIPERNET.

S3/J3. The S3 or operations officer is responsible for integrating joint and service C4I systems and their use in support of SFOB or FOB operations. The S3 accomplishes these tasks by:

1. Planning, integrating and employing GCCS, GCCS-A and ABCS as required.
2. Developing, planning, and publishing sustainment training.
3. Providing guidance to subordinate units (digital and analog).
4. Coordinating with the S6 for communications connectivity for the mission tailored systems employed in the Battlestar.
5. Developing and publishing the digital annex to the OPORD.
6. Developing and publishing digital SOPs.

Table 8. S3-J3

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S3/J3	GCCS-A and access to all systems. LAN/SIPERNET.
FOB	Battlestar	S3	GCCS-A and access to all systems. LAN/SIPERNET.

S4. The S4 is the principal staff officer for coordinating all supply, maintenance, transportation, and services matters. He must maintain close and continuous coordination with SOSCOM, theater SOTSE, and conventional support commands for support of ARSOF operations.

Table 9. S4

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S4/J4	CSSCS. LAN/SIPERNET.
FOB	Battlestar	S1	CSSCS. LAN/SIPERNET.

S5. The S5 or civil affairs and PSYOP LNOs are the principal staff officers for everything concerning civil-military operations and psychological operations.

Table 10. S5

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S5/CA + PSYOP LNO	MCS and GCCS-A to connect to the JPOTF and JCMOTF. LAN/SIPERNET.
FOB	Battlestar	S5/CA + PSYOP LNO	MCS and GCCS-A to connect to the JPOTF and JCMOTF. LAN/SIPERNET.

S5/Plans Cell. The S5 section or plans cell is the principal staff officer(s) for future operations and developing OPLANS and CONPLANS in support of the campaign plan.

Table 11. S5-Plans Cell

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S5/OPG/JPG	Access to all systems. LAN/SIPERNET.
FOB	Battlestar	S5/Plans Cell	Access to all systems. LAN/SIPERNET.

S6/J6. The S6 is responsible for the establishment and maintenance of joint and service C4I systems links by:

1. Connecting remote and distant TOCs through a WAN and LAN.
2. Maintaining the communications architecture.
3. Monitoring the WAN and LAN performance.
4. Troubleshooting the system(s).
5. Ensuring consistency and compatibility of C4I connections to communications systems.
6. Overseeing the planning and installation of the LAN.
7. Coordinating with the S-5 or CA LNO on the use of commercial information system usage.
8. Recommending locations of TOC.
9. Acting as systems administrator.

10. Establishing ARSOTF and FOB web page on SIPERNET.

Table 12. S6-J6

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	S6/J6	MCS. Access to all systems. LAN/SIPERNET.
FOB	Battlestar	S6	MCS. Access to all systems. LAN/SIPERNET.

Aviation LNO(s). The aviation cell will use ASAS, FAADC2I, AFATDS, MCS and aviation unique systems such as Aviation Mission Planning System (AMPS) and the Army Airborne Command and Control System (A2C2S) to assist in C2 of aviation operations, maintenance of situational understanding and synchronization of air and ground operations. Additionally, GCCS-A provides the interface and connection to Air Force Tactical Air Control Systems (TACS) and Navy Joint Maritime Command Information Systems (JCMIS) to ensure Army general-purpose aviation and SOF aviation assets are included in and participate in the air tasking order (ATO) process.

Table 13. Aviation LNO(s)

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	Aviation LNO	FAADC2I, ASAS, AFATDS, MCS, TACS, JCMIS, and AMPS. LAN/SIPERNET.
FOB	Battlestar	Aviation LNO	FAADC2I, ASAS, AFATDS, MCS, TACS, JCMIS, and AMPS. LAN/SIPERNET.

Engineer. The engineer officer will use MCS and ASAS to maintain situational understanding and to command and control engineer assets and effects. The Digital Topographic Support System (DTSS) is used to produce digital, graphic, and nongraphic products and distributes them using ASAS and MCS. This system provides SOB and FOBs access to information pertaining to terrain, mobility, bridges, and other geographic features and planning tools.

Table 14. Engineer

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	Engineer	MCS, ASAS, and DTSS. LAN/SIPERNET.
FOB	Battlestar	Engineer/Provided by SFOB or terrain team	MCS, ASAS, and DTSS. LAN/SIPERNET.

Staff Weather Officer/Section. The staff weather officer utilizes IMETS to provide the SFOB or FOB with weather data. IMETS interfaces with ABCS and circulates weather data down to maneuver units.

Table 15. Staff Weather Officer/Section

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	SWO	MCS, ASAS, and IMETS. LAN/SIPERNET.
FOB	Battlestar	SWO	MCS, ASAS, and IMETS. LAN/SIPERNET.

Surgeon. The surgeon and medical section advises and assists the SFOB and FOB commanders on matters pertaining to health and fighting strength of the unit(s) to include preventative, curative and restorative health care and related services.

Table 16. Surgeon

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	Engineer	CSSCS. LAN/SIPERNET.
FOB	Battlestar	Engineer/Provided by SFOB or terrain team	CSSCS. LAN/SIPERNET.

Tactical Air Control Party (TACP)/Fire Support Coordinator. The USAF TACP or fire support coordinator is the SFOB and FOB cell for the coordination of fire support assets and the deconfliction of fires. He will use AFATD, ASAS, and MCS to maintain situational understanding and transmit graphics and information to subordinate, higher, and adjacent units, or units whose fires can range deployed SOF forces. Additionally, GCCS-A provides the interface and connection to Air Force Tactical Air Control Systems (TACS) and Navy Joint Maritime Command Information Systems (JCMIS) to ensure the TACP can request and track close air support and ensure SOF infiltrations and exfiltrations are included in and participate in the ATO process.

Table 17. Tactical Air Control Party/Fire Support Coordinator

ECHELON	LOCATION	POSITION	DIGITAL SYSTEM
SFOB	Battlestar	Aviation LNO	AFATDS, MCS, TACS, and JCMIS. LAN/SIPERNET.
FOB	Battlestar	Aviation LNO	AFATDS, MCS, TACS, and JCMIS. LAN/SIPERNET.

Personal staff members work under the immediate control of the XO or chief of staff. These staff officers must have access to the COP, deployed LAN, and SIPERNET to communicate and coordinate with their higher, subordinate and adjacent counterparts.

Decision-Making Advantages

Does the Battlestar improve battle command?

Research points to the fact that GCCS-A, GCCS, and ABCS allow the commander and battle staff to adjust and accelerate the decision-making process. GCCS, GCCS-A, ABCS, and a deployed LAN on the SIPERNET link task organized joint and service forces in a common hierarchical command structure. Linking units accelerate the speed of information and provide enhanced situational understanding by achieving information superiority. Additionally, the research clearly finds that the use of a deployed LAN allows units in a nonhierarchical structure to report their current location, operational readiness, and intelligence collected to commanders for planning and tactical employment. Commanders and battle staff can now immediately display and monitor this information upon a big screen or flat screen TV within seconds and make decisions based on current readiness and the current enemy situation, also displayed simultaneously.

With joint and service C4I technologies, information is more accurate, and it is easier to update more often. Additionally, information can be displayed in more visual friendly form. "When all the electrons are in alignment, commanders can video-teleconference, fax, e-mail and in near real time consult one another, receive guidance, provide situational updates, and simultaneously reach common understanding of the higher commander's intent."[5] These information systems will enhance and accelerate the decision-making planning steps in TOCs. Additionally, these innovations that create an accelerated combat environment and collaborative planning environment require leaders who can adapt to organizational change necessary to apply these innovations.

While not a specific finding, it is necessary to recognize that a major determinant of the digital TOC environment is that the deployed LAN, VTC, and whiteboard technologies have added another dimension or capability to staff planning tools. "The days when Army planners huddle around map boards with commands being called over radio nets are over. Today we look for NRT video whiteboards to share thoughts and decisions on plans that are seen by all staff planners in different locations. This breakthrough in planning enhances MDMP steps one and seven, receipt of the mission and orders production."[6] Joint and service C41 systems at the SFOB or FOB enables battle staffs to conduct collaborative planning, where ideas are easily shared and disseminated and plans are simultaneously worked together from distant stations and different echelons of command.

TOCs are evolving to VTCs where staffs are interactive and collaborate face to face from all remote or distant locations dispersed across the JOA. Eventually simultaneous planning will make parallel planning obsolete and accelerate MDMP

significantly. The process of waiting for an OPORD or tasking to arrive to begin developing COAs is obsolete because as a commander watches the plan being developed at the higher headquarters his MCS NCO copies it to his database. We do not have to wait for the S3 or LNO to return to the TOC with the higher headquarters' OPORD and overlays. Operational graphics, OPORDs, and other relevant information can be sent digitally over the SIPERNET. Collaborative planning TOCs are the future. Brigadier General Hall, Deputy Chief of Staff for Intelligence, explains the power of collaborative planning as, "We can collaborate within the confines of a location, or we can collaborate with people around the world, thanks to modern technology."[7]

New Nonhierarchical Command Structure

Does the Battlestar improve information dissemination?

Additionally, the research points to the reality that the use of WANs applying joint and service C4I systems increases, hierarchical organizational structures are decentralizing and becoming obsolete. Traditional Army hierarchical command structures will remain for peacetime chain of command and training purposes. CINCs and JTFs will develop mission specific chains of command and task organizations, and simultaneously tailor the information and exploitation cycle and reporting procedures to fit the JTF and the tailored task organizations. Future JTFs will be established based on systems, equipment, and organizations that are created and dissolved as mission requirements change. This hierarchy must streamline the decision-making cycle and reporting procedures for mission execution. All elements will be coupled on a WAN harnessing satellite links to connect all task-organized forces. Nonhierarchical, internetted C2 structures already have begun to replace hierarchical command structures

on the battlefield. "Hierarchical structure has been the hallmark of military organizations, in the future these hierarchical arrangements--and mindsets--will be challenged and to some extent replaced by arrangements that resemble networks."[8]

Information technology is the enabler for future commanders to think and act faster than the ever before. Better battlefield visualization capabilities will enhance the commanders' abilities to envision or picture the battlefield. GCCS and ABCS provide multiple views of the area of operations and area of interest from different sensors and platforms. Commanders will reach out to one another and their units and soldiers through the use of GCCS, ABCS, and deployed LANs. SFOBs and FOBs will deploy to remote, isolated locations in theater(s) and begin planning and preparations, the entire time digitally connected to higher, subordinate and other deployed forces. GCCS, ABCS, and deployed LANs on the SIPERNET will enhance SFOBs and FOBs that can deploy, strike, and operate independently anywhere in the world or theater(s) while maintaining virtual near real time communications with higher headquarters, subordinate units, and other deployed forces.

Commander to commander VTCs from their respective TOCs, enabling face-to-face contact between commanders and battle staffs; collaborative and simultaneous planning; near real time display of operational readiness and enemy situation; and battle staffs efficiently organized to filter information for the commander will allow the commander to accelerate the OODA Loop and improve overall battle command at all levels. Inevitably, the commander can think and act faster than the enemy he is fighting. The increased visualization provided by GCCS, ABSC, and deployed LANs on the SIPERNET moves SFOBs and FOBs one step closer to a more efficient OODA Loop.

Anticipated Digital TOC Problems

The following is a catalog of significant problems associated with establishing and operating a digital TOC that must be addressed. Digital technology enhances command and control. It allows commanders to have previously unimaginable amounts of reliable and accurate battlefield information. It allows higher commanders to have detailed knowledge about events and operations several echelons below. Digital technology could lead to over centralization and micromanagement from above. The increased visualization provided by GCCS, ABCS, and deployed LANs on the SIPERNET could lead to the susceptibility to "pull" decisions up, away from subordinate levels, as a consequence of the perception of "perfect" information. In addition, the changes in command relationships created by new communications capabilities should be recognized. One of the principal tenets of command is centralized control with decentralized execution; new information technologies, however, are changing this relationship. Senior commanders, with a real-time picture of the battlefield, may be beguiled to interfere in lower-echelon decisions. The challenge is to make sure this does not happen: having the capability does not necessarily mean that the Army wants to or needs to use that capability. Additionally, another effect may be the suppressing of initiative in subordinate commanders; even subordinates not required to coordinate details with higher headquarters may be inclined to do so simply because the communications means are available. This could put at risk initiative and undermine the effectiveness of command.

The digital TOC power requirements are vast. Third world or remote locations or remote locations might not have the power consumption rates required for the digital

TOC. Digital TOC operations must be tailored to the power available in the local areas in which the unit is operating and augmented by deployed generators.

The digital TOC requires greater and more reliable (cleaner) communications bandwidth to support communications and imagery exploitation operations. The ARSOTF digital TOC requires dedicated Joint Worldwide Intelligence Communications (JWICs) bandwidth through multiple paths (DDST to USSOCOM 64 kilobits) and 112th Signal Battalion provided for NRT imagery receipt and exploitation operations. ARSOTF digital TOCs require a minimum JWICS bandwidth of 256 kilobits. Multiple digital TOCs will be competing for the same limited bandwidth.

Planning areas must be segregated from the digital TOC briefing and operations area(s). If planning is going to be effective, planners must have a work area that minimizes distractions. This area must be separate from the Battlestar.

Finally, the last problem to be addressed involves miscellaneous activities taking place inside the Battlestar or digital TOC. Often the TOC becomes a place to congregate, eat, or get warm. It is necessary to ensure that there are times and separate locations for each of these activities; inside the digital TOC or Battlestar is not an option.

Recommendations for Further Study

The following pertains to digitized command and control problems identified in this thesis that could not be addressed fully and merit further examination. They represent issues outside the scope of this thesis but are pertinent to the issue of digitized command and control and digitized technology's influence on battle command.

1. Filter Procedures. A study should be undertaken to identify, with a high degree of fidelity, exactly what each echelon of command monitors and assesses during

current operations. The purpose is to lay the groundwork for developing an optimum set of filters, detailed, responsive, tailorable, and flexible, focused on the appropriate echelon and supporting the commander's decision-making process and cycle.

2. How much information can a commander and battle staff fuse, filter and focus. The purpose is to lay the groundwork for the level of information commanders and battle staffs can process during each phase of the military decision-making process.

3. Does the Battlestar or digitization result in quantitatively quicker and qualitatively better decision making.

Summary

This thesis was intended to transform insights gained over two AWEs, two Prairie Warrior, exercises, and one JTFEX into a checklist of guidelines to organize SFOB and FOB digitized TOCs as the Army continues its road to a fully operational Army Battle Command System (ABCS). The goal of this research has been to develop the optimum SFOB or FOB digitized TOC.

At the heart of the insights is the recognition that all battle staff personnel must have access to the same relevant visual and verbal information at the same time. The common operational picture provided by ABCS, with a battle staff configured around it, in an efficient, organized manner, produces a TOC that is greater than the sum of its members. The commander and his battle staff will be capable of generating efficient, proficient decisions on a sustained basis indefinitely. Additionally, the commander and his battle staff will be able to effectively and quickly execute the OODA Loop.

The commander and his staff have at their disposal a complex array of sensors and collection platforms, data sources, integrated systems and models for the display of

battlefield situation, and a variety of automated planning and decision aids. All of these digitized information sources will be connected to precision weapons and combat, combat support, and combat service support units networked in a real-time information enclave. Units able to adapt and leverage this information environment will achieve success. Efficient, organized, knowledgeable, and well-trained battle staffs must operate this enclave.

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[1]Jim Murphy, *Insights into Optimum TOC Environments* (Andover, MA: Dynamics Research Corporation, 10 August 1999), 5-41.

[2]Ibid., 2-41.

[3]Dr. Michael L. Brown, "The Revolution in Military Affairs: The Information Dimension," in *Cyberwar: Security, Strategy, and Conflict in the Information Age* (Fairfax, VA: AFCEA International Press, May 1996), 34.

[4]Russell W. Hall, "Battle Command: Tactical Decision Making in the Information Age" (Monograph, US Army Command and General Staff College, School for Advanced Military Studies, Fort Leavenworth, Kansas, 20 December 1996, 98.

[5]Bradford K. Nelson, "Applying the Principles of War in Information Operations," *Military Review* 78, no. 5 (November 1998): 34.

[6]Hall. 101.

[7]Wayne M. Hall, *Reflections on 21st Century Information Operations* (Washington DC: DCSINT, 2 January 1999), 3.

[8]Ibid., 4.

APPENDIX A

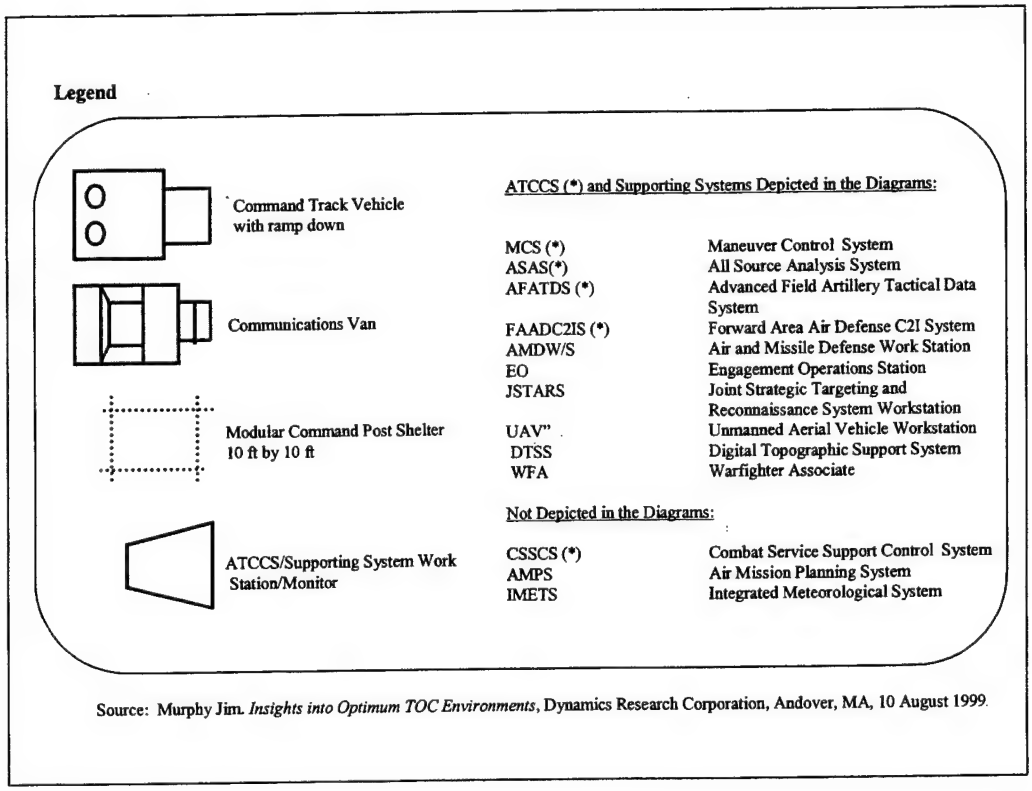
DIAGRAMS OF TWO BRIGADE TOCS DURING THE FORCE XXI DAWE

Appendix A is comprised of the following figures:

Figure 16. Legend

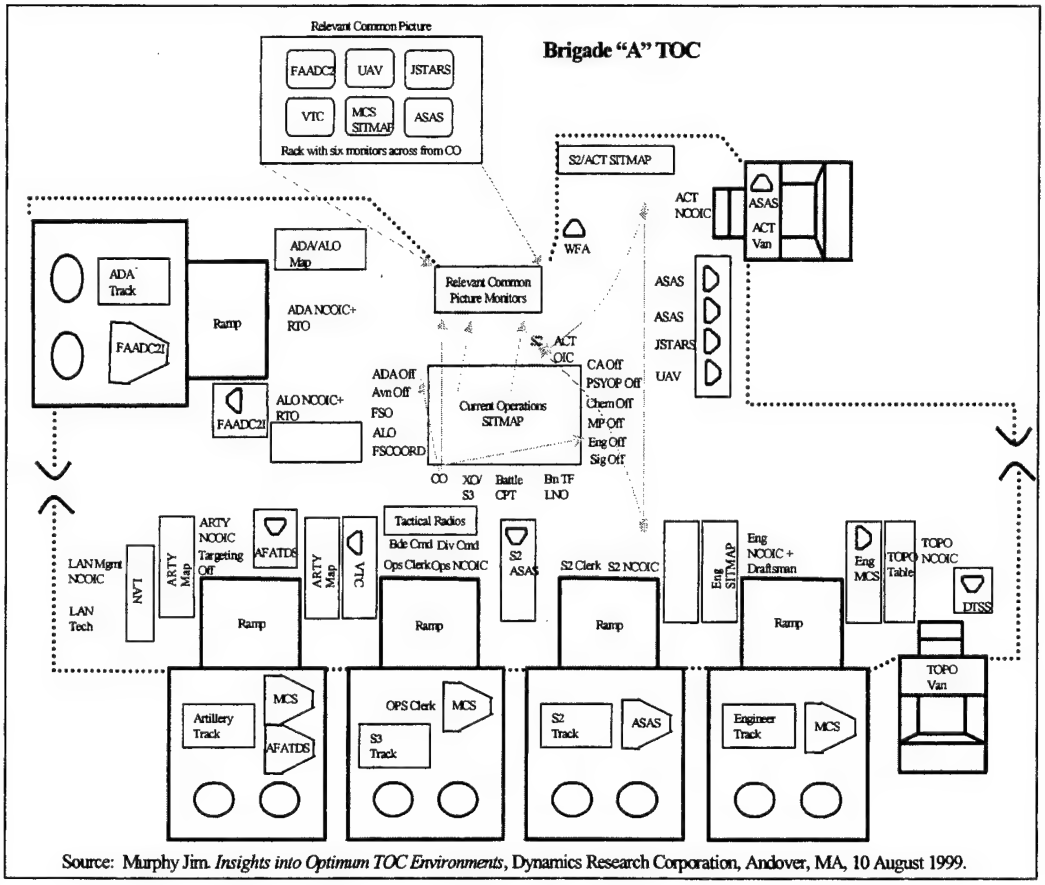
Figure 17. Brigade A TOC

Figure 18. Brigade B TOC



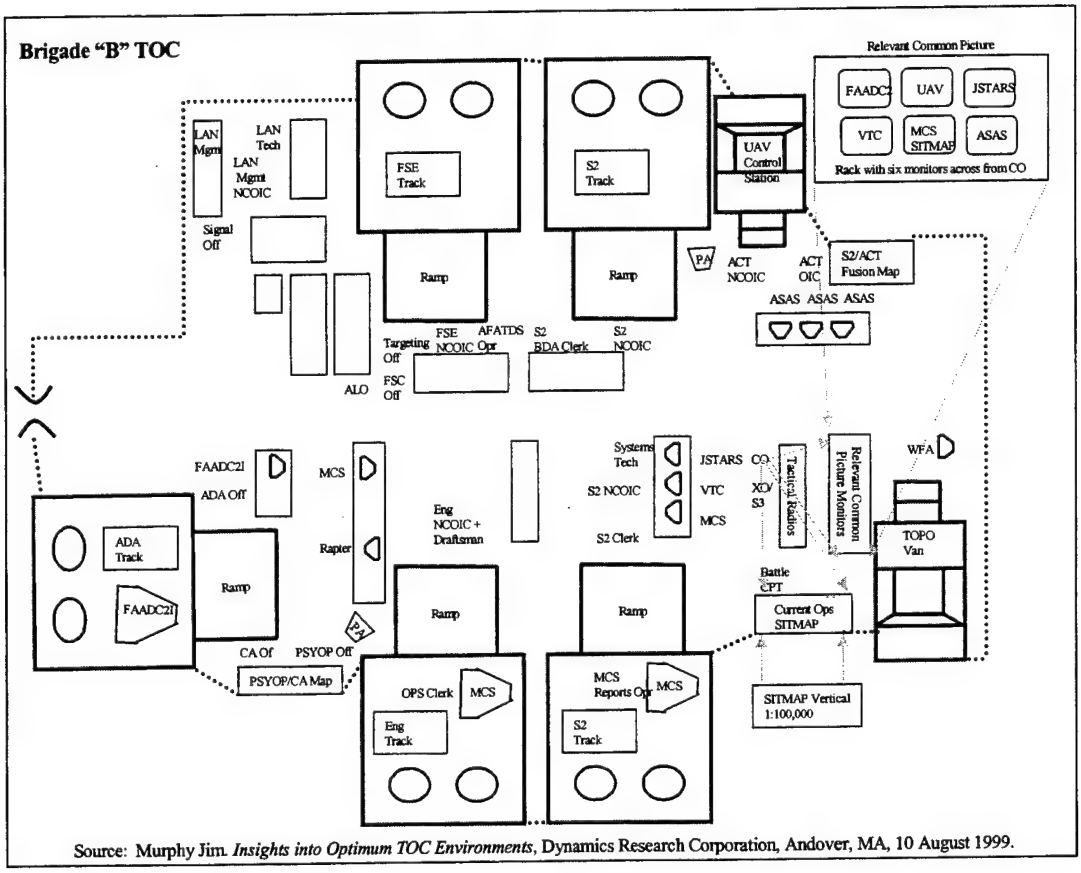
Source: Murphy Jim. *Insights into Optimum TOC Environments*, Dynamics Research Corporation, Andover, MA, 10 August 1999.

Figure 16. Legend



Source: Murphy Jim. *Insights into Optimum TOC Environments*, Dynamics Research Corporation, Andover, MA, 10 August 1999.

Figure 17. Brigade A TOC



Source: Murphy Jim. *Insights into Optimum TOC Environments*, Dynamics Research Corporation, Andover, MA, 10 August 1999.

Figure 18. Brigade B TOC

APPENDIX B

EXAMPLE OF BATTLE UPDATE BRIEF

OR COMMANDER'S UPDATE

Appendix B is an example of a recommended Commander's Update Brief developed and refined during JTFFX 99-1 or R3 by 7th SFG(A) personnel. Slides can be tailored for specific missions and commanders. Additionally slides may be briefed by exception.

http://www-cgsc.army.mil/dgdp/Files/Ay-2000%20Theses.htm

APPENDIX B

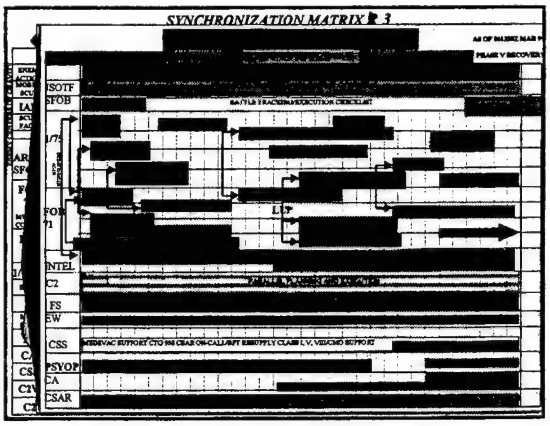
EXAMPLE OF BATTLE UPDATE BRIEF OR COMMANDER'S UPDATE

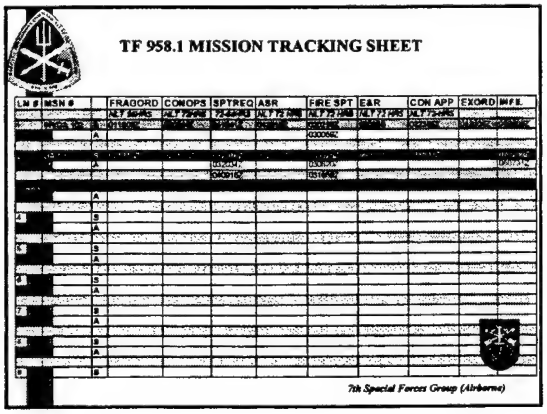
Appendix B is an example of a recommended Commander's Update Brief developed and refined during JTFFX 99-1 or R3 by 7th SFG(A) personnel. Slides can be tailored for specific missions and commanders. Additionally slides may be briefed by exception.

TF 958.1 CDR's UPDATE

4 MAR 99

7th Special Forces Group (Airborne)





TF 958.1

EXECUTIVE OFFICER

7th Special Forces Group (Airborne)

BRIEFING ORDER

- EXECUTIVE OFFICER
- SWO
- S2
- OPCEN DIRECTOR
- FOB 71 LNO
- FOB 201 LNO
- 1/75 RGR LNO
- S3 AIR
- TACP/FIRE SUPPORT
- NBC
- CA
- PSYOPS
- SIGCEN DIRECTOR
- SUPCEN DIRECTOR
- S1 / PAO
- S4
- MEDICAL
- JAG
- HQs COMMANDANT
- OPCEN DIRECTOR
- CDR, TF 958.1

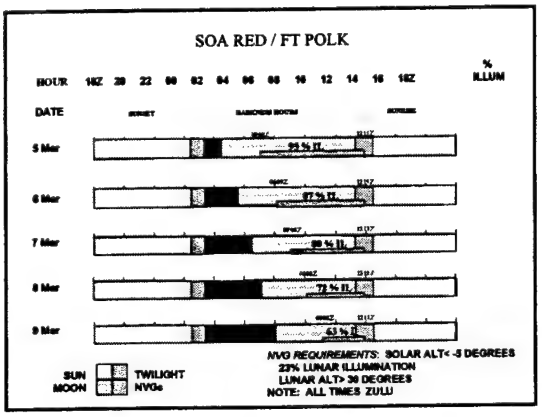
7th Special Forces Group (Airborne)

TF 958.1 SWO

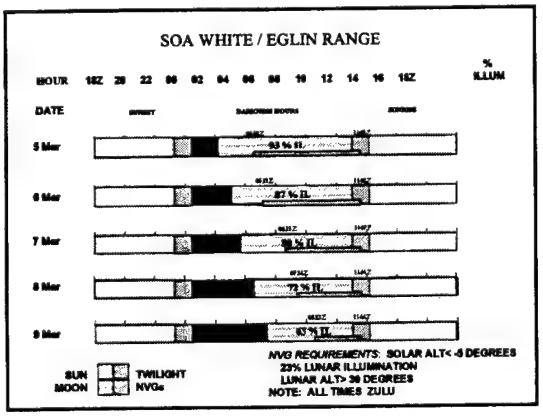
SWO

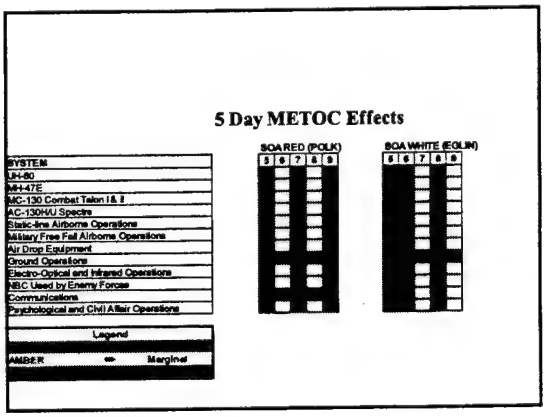
7th Special Forces Group (Airborne)

VALID TIME	5/0600Z	6/0600Z	7/0600Z	8/0600Z	9/0600Z
EFFECTS					
CEILING	1500'	1500' (AM)	NONE	2500'	None
VISIBILITY	GOOD	Good with weak showers	GOOD	Good, Late PM Rain	4-5 Miles in Rain
WIND	S at 15-20 kts	NW at 10-12 kts	NE at 6-8 kts	SE at 8-10 kts	NW at 10-12 kts
TEMPS	HI: 68 F LO: 43 F	HI: 66 F LO: 39 F	HI: 63 F LO: 42 F	HI: 69 F LO: 44 F	HI: 66 F LO: 41 F
WX EFFECTS	Marginal, Airborne and Flight OPS	Marginal, Airborne Ops in A.M. hours only	No Significant Effect	Marginal, on MFF and AC-130	Marginal, on all Airborne an Flight OPS
REMARKS		Clearing by Afternoon	WARMING		Clearing by Afternoon



VALID TIME	5/0600Z	6/0600Z	7/0600Z	8/0600Z	9/0600Z
EFFECTS					
CEILING	NONE	3000'	NONE*	None	NONE
VISIBILITY	GOOD	3-4 Miles in Rain	GOOD	NONE	3-4 Miles in T-Storms
WIND	NE at 8-10 kts	SE at 10-12 kts	NW at 10-12 kts	NE at 6-8 kts	SE at 8-10 kts
TEMPS	HI: 71 F LO: 42 F	HI: 68 F LO: 50 F	HI: 65 F LO: 44 F	HI: 71 F LO: 48 F	HI: 65 F LO: 51 F
WX EFFECTS	No Significant Effects	Marginal effects on all Airborne and Flight OPS	No Significant Effects	No Significant Effects	No Significant Effects
REMARKS					





TF 958.1

S2

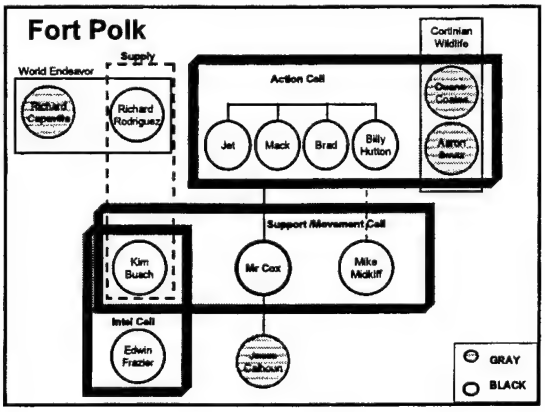
7th Special Forces Group (Airborne)

FORCE PROTECTION

FOB

- NO REPORTED SURVEILLANCE
- CONTINUED DEBRIEF OF MR. WEST
- AOF-T SUSPECTS / CONVOY SECURITY
- SNIPER ACTIVITY

7th Special Forces Group (Airborne)



FORCE PROTECTION

AOB

- POSSIBLE MINE LOCATIONS
- SNIPER ACTIVITY

7th Special Forces Group (Airborne)

FORCE PROTECTION

IDP CAMP

- SCREENING OF PERSONNEL
  - 13 (0) PROCESSED LAST 24 HOURS
  - 52 (4) TOTAL IN CAMP
- FOLLOW-UP FOCUSED ON THE 23 IDP'S FROM MERRILL VILLAGE

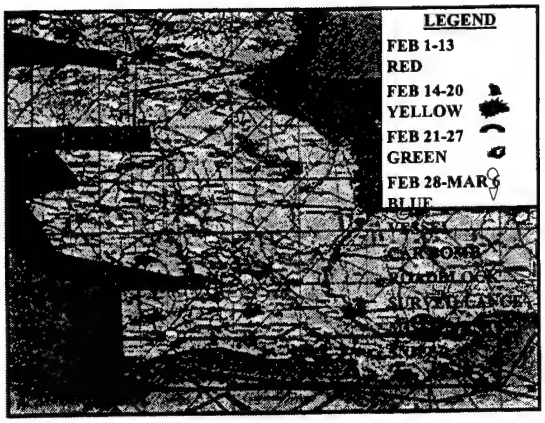
7th Special Forces Group (Airborne)

FORCE PROTECTION

ASSESSMENT

- TARGETING AND HARASSMENT WILL CONTINUE AND INTENSIFY
- FOCUS ON AOB AND IDP CAMP

7th Special Forces Group (Airborne)



TF 958.1 S2 RSR

UNIT	STATUS	REMARKS
SFOB07		
JWICS		
EIWS		No Degradation to Current Mission
SOFIV		
SFOMID 705.1		
FOB 71		
JDISS-SCI		
SOT-A 171		FOB
SOT-A 201		FOB. Launch 060100 to vic VQ7467 (SW of MV)
SFOMID 705.2		FOB (GS)
SFOMID 705.3		IDP CAMP (DS)
SFOMID 705.4		IDP CAMP (DS)
FOB 201		
SFOMID 21.1		FOB (GS)

JTF 958 PIRs

DETERMINE LOCATION OF PRODUCTION, STORAGE, AND POTENTIAL LAUNCH SITES ASSOCIATED WITH FLORIDIAN SCUDS, SSMS, AND CDCM SITES

DETERMINE FLORIDA'S INTENTIONS FOR EMPLOYING WMD AGAINST JTF 958 FORCES

DETERMINE HOW FLORIDA WILL ATTEMPT TO TARGET JTF 958 FORCES FOR COLLECTION, OFFENSIVE OPERATIONS, AND INFORMATION OPERATIONS

DETERMINE THE ADA THREAT TO JTF 958 FORCES ATTEMPTING INFILTRATION IN FLORIDA

DETERMINE WMD CAPABILITY OF POSSIBLE TERRORIST ORGANIZATION WITHIN AO

DETERMINE AOF'S CAPABILITY TO AFFECT JTF 958 FORCES OPERATING IN AO

DETERMINE AOF'S INTENTIONS TO TARGET JTF 958 FORCES FOR COLLECTION, OFFENSIVE OPERATIONS, AND INFORMATION OPERATIONS

DETERMINE THE COMPOSITION, DISPOSITION, SECURITY POSTURE OF POSSIBLE TERRORIST TRAINING CAMPS IN TELARI

TF 958.1 S-2

PHASE V COLLECTION PLAN (Revised)

Priority Intelligence Requirements/Information Requirements	Indicators	Specific Information Requirements	Specific Collection Reports	Collection Planning
1. HOW WILL THE AOF-T ATTEMPT TO TARGET JTF 958.1 FORCES IN CORTINA AND MAINLAND TELARI FOR INTELLIGENCE COLLECTION, OFFENSIVE OPERATIONS, AND INFORMATION OPERATIONS?	1. Pre-conditioning of AOF-controlled media systems.	Are AOF-T or GT disseminating false surveillance information?	Report pre-conditioning of AOF-controlled media systems.	
	2. AOF-T dissemination of false SOF activities, CDCM, SSM launch, etc.	Is there increased preparation activities to mislead LIS?	Report dissemination of false SOF activities, CDCM, SSM launch, etc.	
	3. Spreading biased rhetoric, threats, and disinformation toward LIS.	Does the AOF-T appear more confident of success against LIS forces?	Report any threats by AOF-T given radio against LIS personnel.	
	4. Increased presence of AOF-T ownership VM LIS locations.	Do AOF-T demonstrate fear for increasingly forward LIS forces?	Report any movements of AOF-T elements within FL and TE	
	5. Increased but within the host population toward US	Does AOF-T appear to be manipulating popular support?	Report indications of local disturbances toward US	
	6. Increased boldness of employment, maneuver, etc.	Is the AOF-T arming and preparing for employment of military equipment?	Report incidents of theft and/or employment of military equipment	
2. WILL THE AOF-T ATTEMPT TO DISRUPT NGO AND PVO ACTIVITIES WITHIN THE DF CAMP VIC FORT POLK?	1. Increased media events NGO/PVO presence.	Are terrorists/criminals hostile events initiated/PVO presented or exhibited?	Report threats, incidents, or suspicious activities to NGO/PVO personnel.	
	2. Obtain information/support of AOF-T operating in area?	Is the AOF-T planning the location and attack of the local NGO/PVO?	Report existence of AOF-T employment, terminating, etc.	
	3. Recon surveillance, threats, and indications of AOF-T PSYOPS.	Is the AOF-T conducting PSYOPs against the US and NGO/PVO?	Report all incidences of PSYOPs, surveillance, etc.	
	4. Stockpiling of ammunition, fertilizer, etc. available for bombs.	Is the AOF-T obtaining munition, etc. which could be used for bombs, etc?	Report all the presence of ammunition, fertilizer, etc.	

TF 958.1 S-2

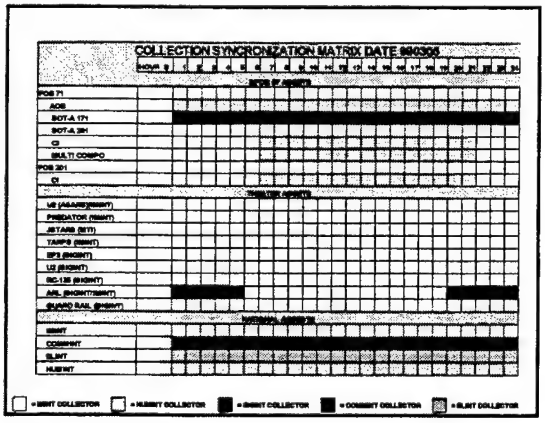
PHASE V COLLECTION PLAN (Revised)

Priority Intelligence Requirements/Information Requirements	Indicators	Specific Information Requirements	Specific Collection Reports	Collection Planning
3. WHAT IS THE ADA THREAT TO JTF 958.1 / 2 OPERATIONS VIC EGLIN, FLORIDA?	1. Pre-conditioning of ADA-associated media systems.	What ADA assets are EN, which can enter engagement zones?	Report pre-conditioning and destruction of all ADA-associated media.	
	2. Movement of mobile ADA ting units via flight APS	Are mobile ADA units being moved to possibly mobility to flight APS?	Report movements and or relocation of mobile ADA units to enhance flight.	
	3. Increase in activity of SW radar and SAD systems within the flight AO	Does SW and SAD activity indicate increased PL preparation/readiness?	Report activity levels of SW system and SAD systems in Eastern Florida.	
4. WHAT IS THE COMPOSITION, DISPOSITION AND SECURITY POSTURE OF THE POSSIBLE AOF-T TRAINING CAMP VIC MERRILL VILLAGE?	1. Pre-conditioning training detected and used for training, etc.	How many personnel are training hold against their will, and where are they?	Report all indicators that personnel are being held against their will.	
	2. Access to certain areas, villages, or LOCs restricted or impeded.	Is the AOF-T controlling/ prohibiting access to villages, etc.?	Report all incidents of DOL, ambulation, infiltration/exfiltration, etc.	
	3. Presence of snipers, SW devices, or other deliberate obstacles.	Are checkpoints being made to defend and or control certain areas?	Report all indications of obstacles, LP/OPs, patrolling, etc.	
	4. Terrorists, fighting positions, obstacles, booby traps, etc.	What defensive measures are being employed at the village?	Report all indications of terrorists, obstacles, fighting positions, etc.	
	5. SA-7/14, DSHK, SPU-1, or other ADA/AAA weapons.	Are ADA/AAA systems present, where are they & what is AOF-T training level?	Report all types, guns, systems, and associated equipment.	
	6. Enemy in Green fatigues, boonie, AKPPs, or communication equipment	Are PS present, where are they & what is AOF-T training level?	Report all types, rounds, firing points, and associated equipment.	

TF 958.1 S-2

PHASE V COLLECTION PLAN (Revised)

Priority Intelligence Requirements/Information Requirements	Indicators	Specific Information Requirements	Specific Collection Reports	Collection Planning
5. WHAT ARE THE PRESENT LOCATIONS OF SCUD MISSILES VIC THE S-12 SCUD MISSILE/FLIGHT POINT AND THE A-17 SCUD COLUMBIA ION FACILITY?	1. If armed vehicles, 1 subunit/vehicle per TEL.	Are TELs with a vehicle and 1 round present?	Report presence of a mounted vehicles with or without missile/rounds.	
	2. Transport of public display subunit/vehicle.	Are public shelter objects being released, moved, or abandoned?	Report movement of vehicles or rocket vessels, TEL pairs, etc.	
	3. Support vehicles/vessels in close proximity to TEL.	Are transport systems present and calibration systems present?	Report movements/activity of any associated calibration equipment	
	4. SCUD loading equipment being located with containers.	Are SCUD shipping containers being loaded onto vessels/vehicles?	Report presence/activity of vessels/vehicles used/present (ships)	
	5. Associated rockets.	Are SCUD- or PROD-associated rockets present?	Report presence of associated rockets.	
6. DOES FLORIDA POSSESS OR IS IT ATTEMPTING TO DEVELOP WEAPONIZED CHEMICAL DELIVERY CAPABILITY VIA SCUD VIC MISSILES?	1. Presence of commonly detected or publicized missile, subunit, etc.	Are missiles or warheads being detected or moved?	Report presence of any unexplained missile or warheads	
	2. Repeated precautions during transportation and handling of munitions, etc.	Are SCUD or SSP gear, emergency or Trash Based vehicles, chemistry of missile.	Report any unexplained personnel, emergency vehicles, evacuations.	
	3. SRDM-2/KH vehicles, SA2-34 or SA2-34, AAS-44 dozen digits.	Are PL taken safety being used in request of SCUD units?	Report all sightings of PL taken unit replacement, evacuation, etc.	



JTF 958.1 S2 RFI ROLL-UP

LAST 24 HOURS

	SUBMITTED	ANSWERED	CXL'D	OUTSTANDING	PARTIAL ANSWER
TOTAL	1	1	0	0	0
SFOB	1	1	0	0	0
FOB 71	0	0	0	0	0
FOB 201	0	0	0	0	0

CUMULATIVE

	SUBMITTED	ANSWERED (LAST 24 HRS)	CXL'D	OUTSTANDING	PARTIAL ANSWER
TOTAL	165	147 (11)	14	4	0
SFOB	100	88 (6)	8	4	0
FOB 71	42	36	6	0	0
FOB 201	23	23 (5)	0	0	0

JTF 958.1 S2 RFI ROLL-UP

RFI #	SUSPENSE	PRODUCT	REMARKS
7SFG-98-029	980306	IMAGERY PEASON	USSOCOM
7SFG-98-1-157EX	980304	IDP RECORDS CHECK	JSOTF
7SFG-98-1-159EX	980305	RECORDS CHECK ON 2 AOF-T PERSONNEL	JSOTF
7SFG-98-1-147EX	980304	RFIs ON MERRILL VILLAGE	JSOTF

** = FOB 201 RFI * = FOB71 RFI

= PAST SUSPENSE DATE = PAST LTIOV DATE 7SFG = SUBMITTED LAST 24 HOURS

TF 958.1 S-2

Essential Elements of Friendly Information

- Missions, Composition and Capabilities of TF 958.1 and subordinate units
- Locations and Movements of TF 958.1 and subordinate units
- Location, Mission, and Capabilities of TF 958.1.1 (prevent escalation of insurgent activity in Cortina, and insure a functioning government and infrastructure operated by the Citizen's of Cortina)
- Mission, Capabilities and Intent of CTG 958.5 and Operation Marauder
- Intelligence Collection Methods and Screening Procedures for IDP Camp Operations
- Location, Mission, and Intent of TF 958.1.2 Unilateral Missions
- Base Security plans, ROE, and Force Protection activities at SFOB, FOBs, AOBs

JTF 958.1 S2

Last 24 Hour

- Continued Development of Targets
- Final Coordination with USSOCOM/DIA for Collection (Approved for 5 and 6 MAR)

Next 24 Hours

- Continue to refine Target Intel for Operation Marauder
- Receive and Process Imagery

TF 958.1

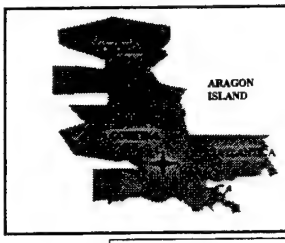
OPCEN DIRECTOR

7th Special Forces Group (Airborne)

FRAGORD SO 101

MISSION:
CORTINA PROVINCE,TELARI

EMPLOY SOF TO ASSIST HOST NATION CIVIL AUTHORITIES MAINTAIN CONTROL, PROTECT AND SUPPORT DC PERSONNEL, AND QUELL THE TERRORIST THREAT IN CORTINA PROVINCE TO SUPPORT JTF 950 CAMPAIGN



MISSION TIMELINE

27FEB 28 FEB 28FEB 28FEB 02MAR
FRAGO CONOPS BB NET CAMP EST

FORCES TASKED:
7th SFG(A)
FOB 71
AOB 730
-MULTI-COMPO FORCE

FRAGORD SR/DA 102

MISSION:

O/O, CTF 958 CONDUCTS SPECIAL OPNS VIC EGLIN AIR BASE, FL TO INVESTIGATE THE TRANSFER OF SCUD MISSILES FROM FLORIDA TO KORONA. ON ORDER CONDUCT SPECIAL OPNS TO DESTROY AVAILABLE SCUDS THAT MAY BE READY FOR TRANSFER TO KORONA.

MISSION TIMELINE

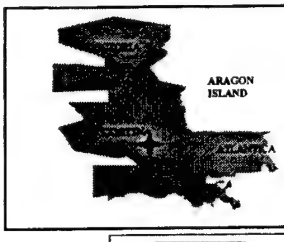
1 MAR 2 MAR 4 MAR 5 MAR 0507332
FRAGO CONOPS BB EALT NLT INFIL TOT EXFIL

FORCES TASKED:
7th SFG(A)
FOB 201
STS

FRAGORD DA 103

MISSION:
CORTINA PROVINCE,TELARI

CTF 958 CONDUCTS SPECIAL OPERATIONS TO ELIMINATE THE AOF-T THREAT FROM MERRILL VILLAGE NLT 08MAR99, TO RESTORE CIVILIAN CONTROL AND RETURN DISLOCATED CIVILIANS TO THEIR HOMES.



MISSION TIMELINE

2 MAR 2 MAR 3 MAR 6 MAR 8 MAR
FRAGO CONOPS BB EALT NLT INFIL TOT EXFIL

FORCES TASKED:
7th SFG(A)
1/75TH RGR

FRAGO 023 SR/DA402 EGLIN AIR BASE

MISSION: Conduct SR to confirm or deny the transfer of scud missiles from Florida to Korona and to conduct DA to deny or destroy this transfer if proven.

MISSION TIMELINE (ZULU)
EXORD ISSUED 020315Z
FRAGO CONOPS BB EALT INFIL TOT EXFIL MC
02 Mar

FORCES TASKED:
A Sqn
RRD
STS

TASK FORCE 958.1

BATTLE RHYTHM

	All Times Local:	STATUS
•ATOs DUE	0400	Submitted
•LOG SIT REP DUE	0400	Submitted
•INTSUM DUE	0400	Submitted
•CDR's UPDATE SLIDES DUE	0430	
•TARGET NOMINATIONS DUE	0100	Submitted
•SHIFT CHANGE	0700	
•PERSTAT DUE	0700	Submitted
•CDR's UPDATE SLIDE REVIEW	0645	
•CDR's UPDATE	0730	
•SITREP DUE	0800	Submitted
•COMSTAT DUE	0800	Submitted
•SHIFT CHANGE	1900	
•(WEEKLY) MEDICAL SURVLNCE REP	1200 (SUNDAY)	
•DAILY SITREP INFO DUE TO MSG CENTER	1400	

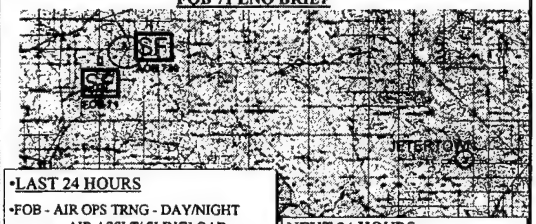
7th Special Forces Group (Airborne)

TF 958.1

FOB 71 LNO

7th Special Forces Group (Airborne)

CTU 958.1.1
FOB 71 LNO BRIEF

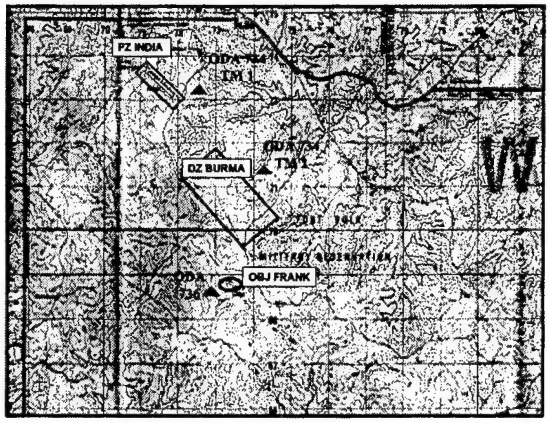


•LAST 24 HOURS

- •FOB - AIR OPS TRNG - DAY/NIGHT
  - •AIR ASSLT/ SLINGLOAD
  - •ODA MISSION REHEARSALS
- •FOB - SHOTS FIRED/OPFOR VEHICLE DESTROYED
- •AOB - MEDIA/EMBASSADOR VISIT TO IDP CAMP
- •AOB - SHOTS EXCHANGED

NEXT 24 HOURS

- •FOB - MISSION SUPPORT TRNG/ REHEARSALS
  - •CLS
  - •CONVOY/QRF
- •FOB - INSERT SR TEAMS
- •AOB - RESUPPLY CAMP



CTU 958.1.1
FOB 71 LOGSTAT

CLASSES	FOB 71	DOS/STS FOB 71			
I		18/15.6			
II		18/14.3			
III		18/3422 GAL			
IV		18/32.9			
V		18/120.8			
VI		18/12.3			
VII		18/57.9			
VIII		18/5.2			
IX		18/7.5			
SERVICE		18/gregg			

LEGEND:

GREEN=100 PERCENT OF DAYS OF SUPPLY

AMBER=50 PERCENT DAYS OF SUPPLY ON HAND

RED=25 PERCENT DAYS OF SUPPLY ON HAND

LOGISTICS
CTG 958.1.1 FFIR

	NOMENCLATURE	AUTH	O/H	FMC	NMC	MILES
	Rifle Carbine: M4	149	149	149	0	440
	Launcher: 40mm M203	7	7	7	0	N/A
	Rifle : M16A2	92	92	92	0	SEE M-4
	Pistol: M9	47	47	47	0	N/A
	Pistol: M1911	1	1	1	0	N/A
	M249 SAW	6	6	6	0	15
	Rifle: M24 Sniper	4	4	4	0	4
	CAR 15	70	70	70	0	SEE M-4
	MG7.62 (M60)	8	8	8	0	15
	MG7.62 M240	2	2	2	0	SEE M-60
	MG50CAL M2 HB	2	2	2	0	2
	Launcher: MK19	4	4	4	0	Notional
	Mortar: 81mm	1	1	1	0	Notional
	Mortar: 60mm	3	3	3	0	Notional

LOGISTICS
CTG 958.1.1 FFIR

	NOMENCLATURE	AUTH	O/H	FMC	NMC	MILES
	Rifle Carbine: M4	149	149	149	0	440
	Launcher: 40mm M203	7	7	7	0	N/A
	Rifle : M16A2	92	92	92	0	SEE M-4
	Pistol: M9	47	47	47	0	N/A
	Pistol: M1911	1	1	1	0	N/A
	M249 SAW	6	6	6	0	15
	Rifle: M24 Sniper	4	4	4	0	4
	CAR 15	70	70	70	0	SEE M-4
	MG7.62 (M60)	8	8	8	0	15
	MG7.62 M240	2	2	2	0	SEE M-60
	MG50CAL M2 HB	2	2	2	0	2
	Launcher: MK19	4	4	4	0	Notional
	Mortar: 81mm	1	1	1	0	Notional
	Mortar: 60mm	3	3	3	0	Notional

LOGISTICS
CTG 958.1.1 FFIR

	NOMENCLATURE	AUTH	O/H	FMC	NMC	MILES
	Recoiless Rifle: 84mm	2	2	2	0	Notional
	M-79	2	2	2	0	Notional
	PVS-4	4	4	4	0	
	PVS-6	4	4	4	0	
	PVS-7A	37	37	37	0	
	PVS-7B	41	41	41	0	
	PVS-10	4	4	4	0	
	PVS-13	1	1	1	0	
	PVS-14	6	6	6	0	
	PAQ-4C	9	9	9	0	
	PEQ-1	1	1	1	0	
	PEQ-2	17	17	17	0	
	CVL	4	4	4	0	
	M995	14	14	14	0	

LOGISTICS
CTG 958.1.1 FFIR

	NOMENCLATURE	AUTH	O/H	FMC	NMC	MILES
	PAS-20	2	2	2	0	
	SENATOR, M-17	1	1	1	0	
	TRK SEE: FLU 419	2	2	2	0	2
	HEATER (HERMAN)	2	2	2	0	N/A
	VEHICLE MILES					56
	UH-60 MILES	6	6	6		6
		O/H	FMC	PMC	NMC	
	MOTOROLA RADIO	26	25	0	1	
	AN/PRC 104A/B	7	5	1	1	
	AN/PRC 127A	24	23	0	1	
	PRC 137	7	6	0	1	
	TRK,TRCTR:M582A2	1	0	0	1	
	TRK,HMMT: M978	2	2	1	0	

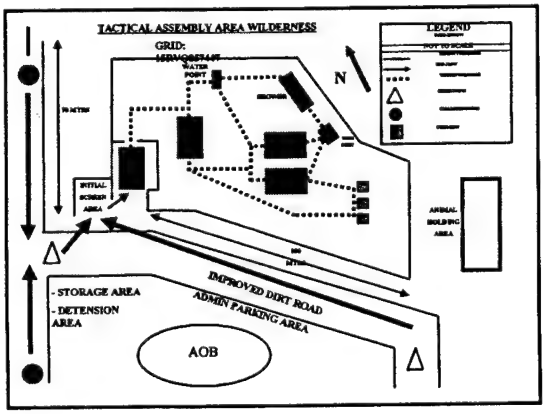
LOGISTICS
CTG 958.1.1 FFIR

	NOMENCLATURE	O/H	FMC	PMC	NMC	MILES
	TRK, CGO 5T M582	1	0	0	1	1
	TRK,HMMT: M978	3	2	1	0	1
	TRK SEE: FLU 419	2	1	1	0	2
	UH-60	6	6	0	0	6
	MOTOROLA RADIO	26	25	0	1	
	AN/PRC 104A/B	7	5	1	1	
	AN/PRC 127A	24	23	0	1	
	PRC 137	7	6	0	1	

CTU 958.1.1
FOB 71 PERSTAT

UNIT	OFF		WO		ENL		CIV		REMARKS
	AUTH	ASM	AUTH	ASM	AUTH	ASM	AUTH	ASM	
FOB71		49		21		356		6	
TOTAL									

TOTAL 432



TF 958.1

FOB 201 LNO

7th Special Forces Group (Airborne)

FOB 201 LNO BRIEF

MISSION STATUS:

OPERATIONS LAST 24 HOURS:

*FOB 201 CONTINUED TO SUPPORT ODA'S DURING OPERATIONAL STATUS
*ODA'S PRESENTED BRIEFBACK TO LTC ROBERT ON 041500Z MAR 99
*ODA 2024, 2034, 2016, 2024 INFILTRATED INTO SOA WHITE AT 050601Z MAR 99
*FOB 201COMMANDER APPROVED MISSION
*FOB 201 RECEIVED EXECUTE ORDER

OPERATIONS NEXT 24 HOURS:

*FOB 201 WILL CONTINUE TO SUPPORT ODA'S DURING OPERATIONAL STATUS
*ODA'S WILL ESTABLISH SURVEILLANCE ON TARGETS AND REPORT INFORMATION TO HIGHER

SR/DA 102 MISSION EXECUTION CHECKLIST

No.	Description	Resp. Nat	From	To	Outbound	Time	Act. Time	Reported Time
100	Teams depart FOB	SAT	DIK03	DIK	ALABAMA	W-4:01	0003002 MAR 99	0001SIZ MAR99
110	MH-47 loaded	SAT	DIK03	DIK	ALASKA	W-3:46	0003112Z MAR 99	0003172 MAR99
130	MH-47 Takeoff	SAT	DIK03	DIK	ARIZONA	W-3:25	0003302 MAR 99	0003392 MAR99
130	MH-47 HAR Complete	SAT	SHARK01	DIK	ARKANSAS	W-3:58	0003552Z MAR 99	[redacted]
[redacted]								
140	Border Crossing - in	SAT	SHARK01	DIK	CALIFORNIA	W-0:10	0505612 MAR 99	0507372 MAR 99
[redacted]							0508572 MAR 99	
150	INFIL Complete	SAT	SNAIL	DIK	CAROLINA	W 0:00	0508012 MAR 99	0507332 MAR 99
[redacted]							0508172 MAR 99	
160	Border Crossing - out	SAT	SHARK01	DIK	COLORADO	W+0:10	0509112 MAR 99	0507392 MAR 99
180	ODA's begin movement to battle/ MSR sites				GEORGIA	W+0:29	0509302 MAR 99	0509762 MAR 99
190	MH-47's Arrival Ground Refueling	SAT	SHARK01	DIK	HAWAII	W+2:04	0603072 MAR 99	0509942 MAR 99
							2nd aircraft——	0509192 MAR 99
200	MH47's arrive FOB	SAT	SHARK03	DIK	IDAHO	W+3:17	0609142 MAR 99	0510342 MAR 99
210	Ballistic Air Crews	SAT	SHARK01	DIK	ILLINOIS			
220	All ODA's in MSR sites	SAT	SNAIL	DIK	INDIANA	W+4:59	0910002 MAR 99	
230	Surveillance begins on tgts				IOWA	W+11:59	0803002 MAR 99	
240	Continuous surveillance and reports on tgts	SAT	SNAIL	DIK	ILLINOIS	every 4 Hr	0804002 MAR 99	

FOB 201 LNO BRIEF

MISSION STATUS:

OPERATIONS LAST 24 HOURS:

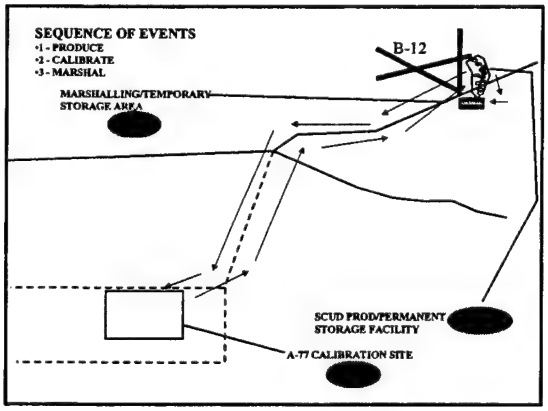
*FOB 201 CONTINUED TO SUPPORT ODA'S DURING OPERATIONAL STATUS
*ODA'S PRESENTED BRIEFBACK TO LTC ROBERT ON 041500Z MAR 99
*ODA 2024, 2034, 2016, 2024 INFILTRATED INTO SOA WHITE AT 050601Z MAR 99
*FOB 201COMMANDER APPROVED MISSION
*FOB 201 RECEIVED EXECUTE ORDER

OPERATIONS NEXT 24 HOURS:

*FOB 201 WILL CONTINUE TO SUPPORT ODA'S DURING OPERATIONAL STATUS
*ODA'S WILL ESTABLISH SURVEILLANCE ON TARGETS AND REPORT INFORMATION TO HIGHER

SEQUENCE OF EVENTS

•1 - PRODUCE
•2 - CALIBRATE
•3 - MARSHAL



CRITICAL ITEMS WITH DEPLOYED ODA'S (INCLUDES AF & 7TH GRP ATTACHMENTS)

	DESCRIPTION	2016	2024	2031	2034	
	Personnel	13	12	10	13	
	KYK-13	1	1	1		
	KYX-15	1				
	KY-57	2			1	
	AN/PRC 104	2	1	1	1	
	AN/PCS 3				1	
	PAQ-4	2				
	KL-43C	1	2	1	2	
	PRC-119	0	1		2	
	PRC-126	2	1	2	2	

CTU 958.1.2
FOB 201 LOGSTAT

CLASSES	FOB 201	DOS/STS FOB 201			
I	[redacted]	23/3.5			
II		23/3.2			
III		23/1840GAL			
IV		23/6.9			
V		30/33			
VI		23/2.6			
VII		23/12.4			
VIII		23/.92			
IX		23/2			
SERVICES					

LEGEND:

GREEN=100 PERCENT OF DAYS OF SUPPLY
AMBER=50 PERCENT DAYS OF SUPPLY ON HAND
RED=25 PERCENT DAYS OF SUPPLY ON HAND

LOGISTICS
CTG 958.1.2

NOMENCLATURE	AUTH	O/H	FMC	NMC	MILES
Rifle Carbine: M4	191	191	191	0	60
M249 SAW	1	1	1	0	6
Rifle: M24 Sniper	2	2	2	0	4
MG 7.62 (M60)	4	4	4	0	2
MG 50CAL M2 HB	4	4	4	0	
Mortar: 60mm	6	6	6	0	
PAQ-4	6	6	6	0	
KYK-13	14	14	14	0	
KYX-15	10	10	10	0	
KY-57	12	12	12	0	
KY-68	2	2	2	0	
STU-111	11	11	11	0	
AN/PSC-3	6	6	6	0	
AN/PRC-104	10	10	10	0	

FOB 201 PERSONNEL STATUS

UNIT	OFF	WO	ENL	CIV	WIA	KIA	MIA	NBL	TOTAL
FOB 201	29	10	188	4					231

TF 958.1

1/75th RGR LNO

7th Special Forces Group (Airborne)

BATTALION MISSION

CTU 958.5 (1/75 RGR(-)) conducts airborne assault onto DZ BURMA at H-Hr (070200Z March (T)) seizes OBJ FRANK (VQ 733689) in order to neutralize armed AOF-T insurgents. On order, conduct relief in place in order to turn over control to TF ADAMS for stability operations.

BATTALION CDR's INTENT

- The purpose of this operation is to neutralize the armed AOF-T insurgents operating in Merrill Village IOT facilitate follow-on stability operations by combined ARSOTF forces.
- Our basic method is to conduct an airborne assault to raid Merrill Village to kill, capture or disperse AOF-T belligerents. We will then conduct RIP with ARSOTF forces and exfil the raid force.
- At endstate, armed AOF-T faction in Merrill Village is destroyed, captured or dispersed; the village is turned over to combined ARSOTF forces and 100% of the Ranger force is extracted to the ISB.

PHASES OF THE OPERATION

Phase I Recon and Surveillance

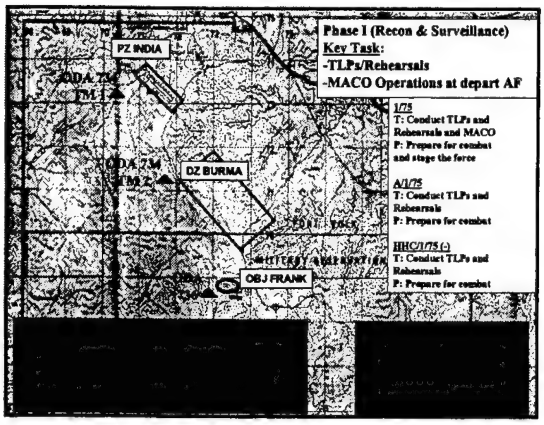
Phase IIa Infiltration

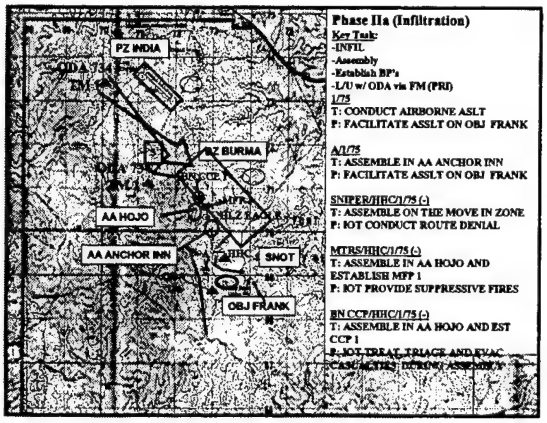
Phase IIb Assault OBJ FRANK

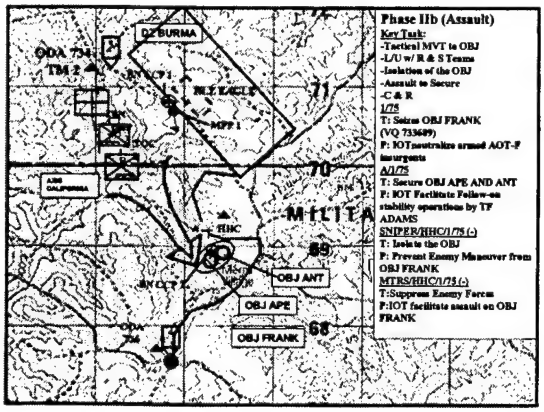
Phase III Relief in Place

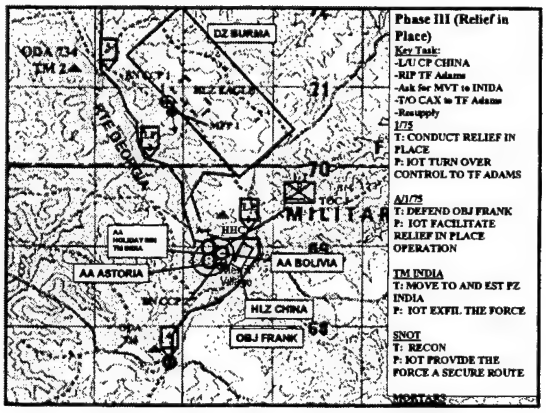
Phase IV Exfiltration

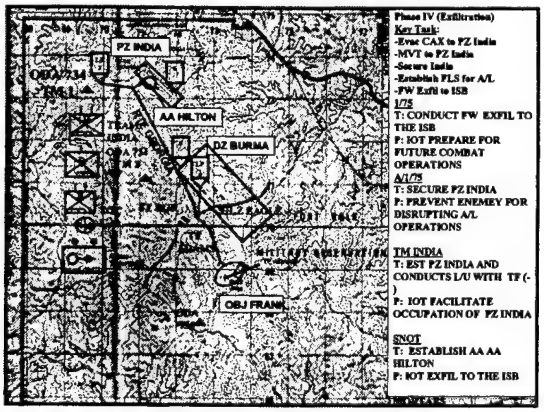
Phase V Recovery

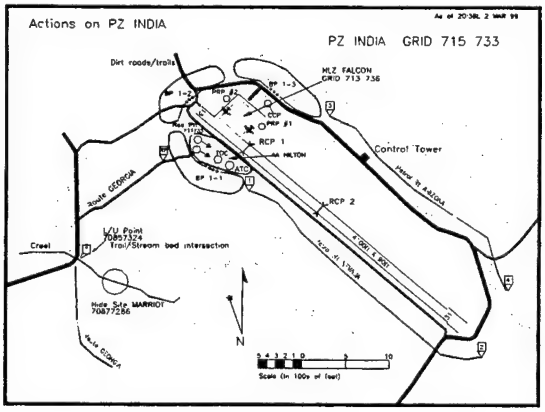

Phase I (Recon & Surveillance)
Key Task:
-TLPs/Rehearsals
-MACO Operations at depart AF
1/75
T: Conduct TLPs and Rehearsals and MACO
P: Prepare for combat and stage the force
A/1/75
T: Conduct TLPs and Rehearsals
P: Prepare for combat
HHC/1/75 (-)
T: Conduct TLPs and Rehearsals
P: Prepare for combat
PZ INDIA
DZ BURMA
OBJ FRANK
ODA 734 TM 2


Phase IIa (Infiltration)
Key Task:
-INFIL
-Assembly
-Establish BP's
-L/U w/ ODA via FM (PRI)
1/75
T: CONDUCT AIRBORNE ASLT
P: FACILITATE ASSLT ON OBJ FRANK
A/1/75
T: ASSEMBLE IN AA ANCHOR INN
P: FACILITATE ASSLT ON OBJ FRANK
SNIPER/HHC/1/75 (-)
T: ASSEMBLE ON THE MOVE IN ZONE
P: IOT CONDUCT ROUTE DENIAL
MTRS/HHC/1/75 (-)
T: ASSEMBLE IN AA HOJO AND ESTABLISH MFP 1
P: IOT PROVIDE SUPPRESSIVE FIRES
BN CCP/HHC/1/75 (-)
T: ASSEMBLE IN AA HOJO AND EST CCP 1
P: IOT TREAT, TRIAGE AND EVAC CASUALTIES DURING ASSEMBLY
PZ INDIA
DZ BURMA
AA HOJO
AA ANCHOR INN
SNOT
OBJ FRANK
ODA 734 TM 2


Phase IIb (Assault)
Key Task:
-Tactical MVT to OBJ
-L/U w/ R & S Teams
-Isolation of the OBJ
-Assault to Secure
-C & R
1/75
T: Seize OBJ FRANK (VQ 733689)
P: IOTneutralize armed AOT-F insurgents
A/1/75
T: Secure OBJ APE AND ANT
P: IOT Facilitate Follow-on stability operations by TF ADAMS
SNIPER/HHC/1/75 (-)
T: Isolate the OBJ
P: Prevent Enemy Maneuver from OBJ FRANK
MTRS/HHC/1/75 (-)
T:Suppress Enemy Forces
P:IOT facilitate assault on OBJ FRANK
DZ BURMA
OBJ ANT
OBJ APE
OBJ FRANK
ODA 734 TM 2


Phase III (Relief in Place)
Key Task:
-L/U CP CHINA
-RIP TF Adams
-Ask for MVT to INDA
-T/O CAX to TF Adams
-Resupply
1/75
T: CONDUCT RELIEF IN PLACE
P: IOT TURN OVER CONTROL TO TF ADAMS
A/1/75
T: DEFEND OBJ FRANK
P: IOT FACILITATE RELIEF IN PLACE OPERATION
TM INDIA
T: MOVE TO AND EST PZ INDIA
P: IOT EXFIL THE FORCE
SNOT
T: RECON
P: IOT PROVIDE THE FORCE A SECURE ROUTE
DZ BURMA
AA ASTORIA
AA BOLIVIA
HLZ CHINA
OBJ FRANK
ODA 734 TM 2

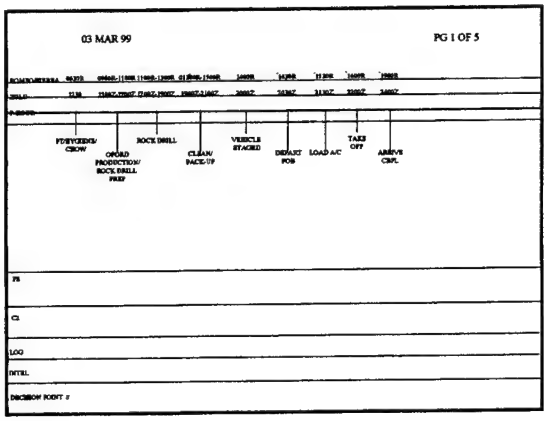

Phase IV (Exfiltration)
Key Task:
-Evac CAX to PZ India
-MVT to PZ India
-Secure India
-Establish FLS for A/L
-FW Exfil to ISB
1/75
T: CONDUCT FW EXFIL TO THE ISB
P: IOT PREPARE FOR FUTURE COMBAT OPERATIONS
A/1/75
T: SECURE PZ INDIA
P: PREVENT ENEMEY FOR DISRUPTING A/L OPERATIONS
TM INDIA
T: EST PZ INDIA AND CONDUCTS L/U WITH TF (-)
P: IOT FACILITATE OCCUPATION OF PZ INDIA
SNOT
T: ESTABLISH AA AA HILTON
P: IOT EXFIL TO THE ISB
PZ INDIA
AA HILTON
DZ BURMA
OBJ FRANK
ODA 734 TM 2

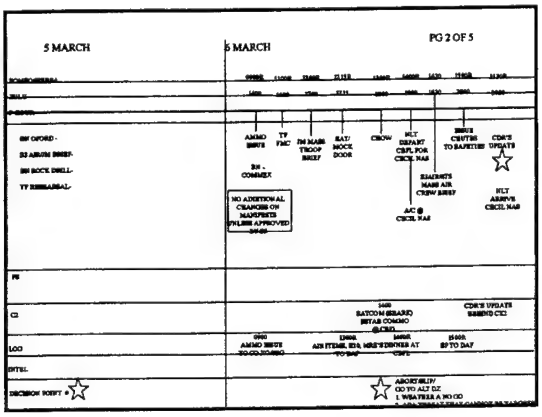

Actions on PZ INDIA
PZ INDIA GRID 715 733
HLZ FALCON GRID 713 736
Control Tower
AA HILTON
RCP 1
RCP 2
Route GEORGIA
Creel
L/U Point 7085734 Trail/Stream bed intersection
Hide Site MARRIOT 7087286
N
Scale (in 100s of feet)

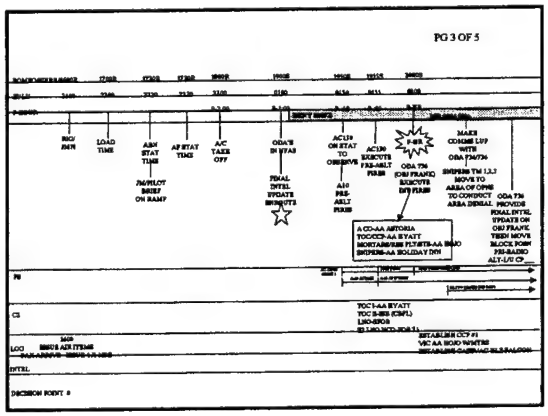
MINIMUM FORCE REQUIREMENTS

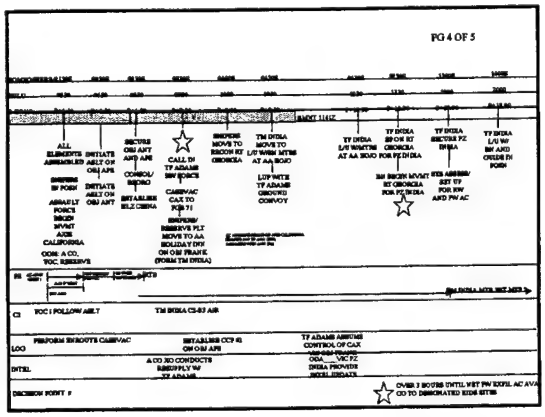
Assault Force:	
2 X Rifle Platoons (60)	Seize OBJ FRANK
1 X WPN SQD (7)	
2 X SNOT (4)	
1 X Co C2 (6)	Tactical C2
ATLS Providers (2)	CAX Sustainment
BN C2 (FM & SAT) (7)	C3 w/ ARSOTF, TF ADAMS, ODA, FOB 7
STS TM (3)	F/W Exfil
2 X 60MM MRT (6)	Organic Fire Support

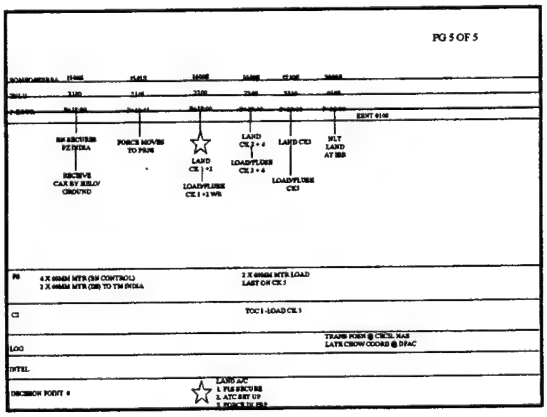
Total PAX 95 = 2 X MC130 for INFIL/EXFIL
External CASEVAC Capability

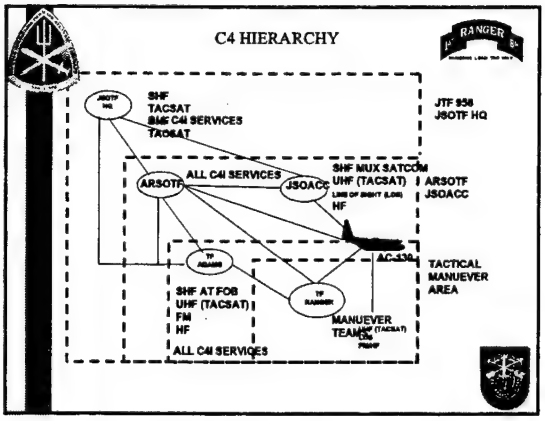












TF 958.1

S5/PLANS

7th Special Forces Group (Airborne)

TF 958.1 S5

LAST 24 HOURS :

- Track current operation

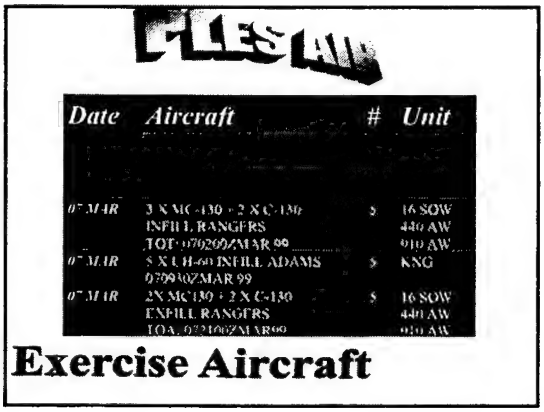
LAST 24 HOURS:

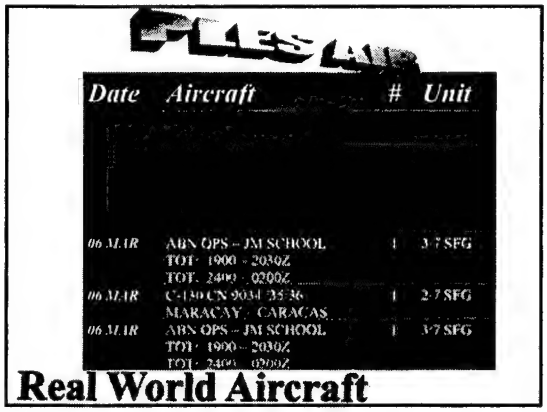
- Monitor and track operations

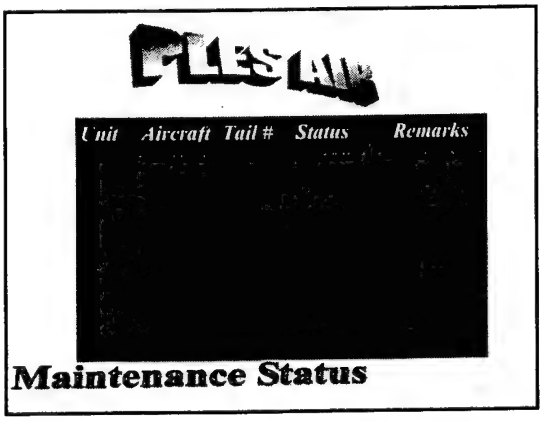
TF 958.1

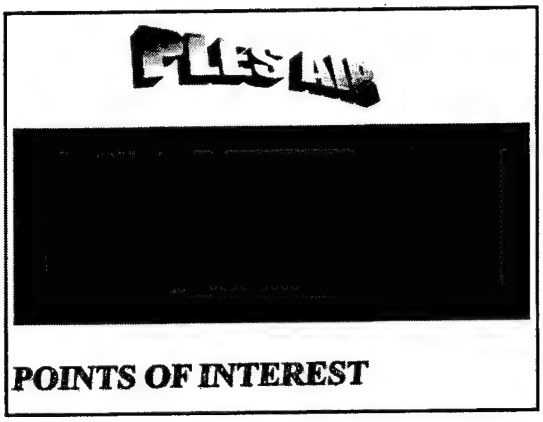
AIR NCO

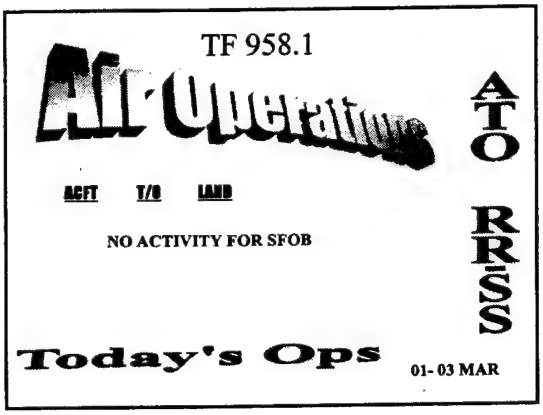
7th Special Forces Group (Airborne)

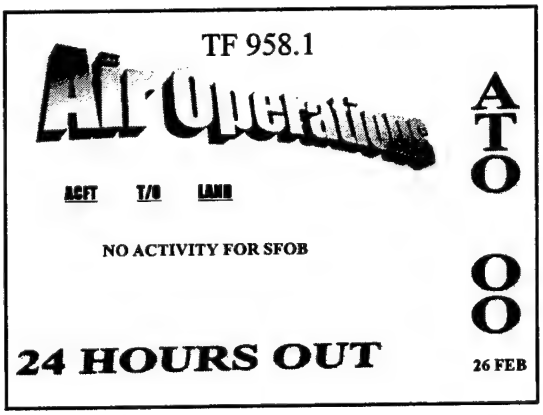


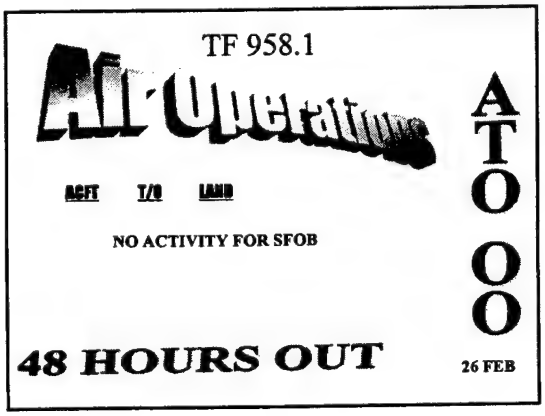


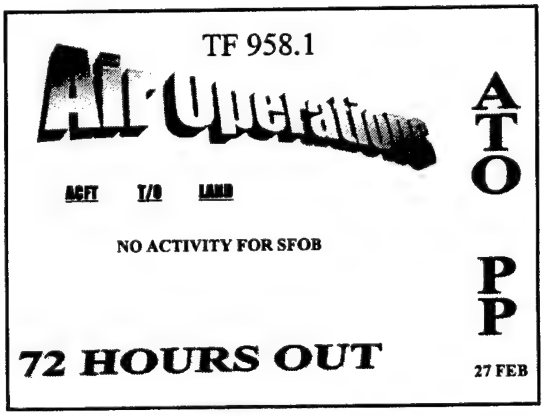

FLIGHT LINE
Unit Aircraft Tail # Status Remarks
Maintenance Status


FLIGHT LINE
POINTS OF INTEREST


TF 958.1
Air Operations
ACFT T/O LAND
NO ACTIVITY FOR SFOB
ATO
RRS
Today's Ops
01- 03 MAR


TF 958.1
Air Operations
ACFT T/O LAND
NO ACTIVITY FOR SFOB
ATO
OO
24 HOURS OUT
26 FEB


TF 958.1
Air Operations
ACFT T/O LAND
NO ACTIVITY FOR SFOB
ATO
OO
48 HOURS OUT
26 FEB


TF 958.1
Air Operations
ACFT T/O LAND
NO ACTIVITY FOR SFOB
ATO
PP
72 HOURS OUT
27 FEB

TF 958.1

TACP/FS

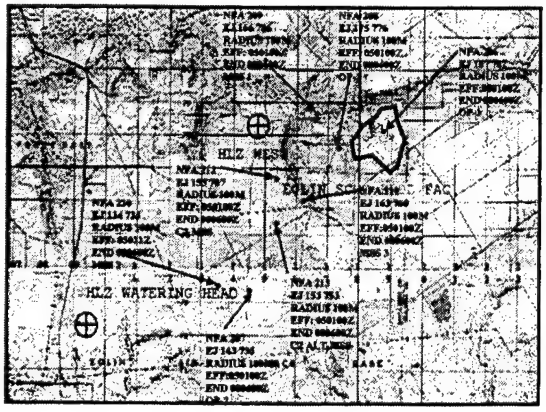
7th Special Forces Group (Airborne)

TF 958.1

TACP/FS

LAST 24 HOURS:

- SR/DA 103 Live Fire execution TOT 080300Z - 080500Z
- DA 102 AC-130 / A-10 missions CNX -- Airspace Deconfliction problems
- DA 103 NFA plan approved by JSOTF FSO



TF 958.1

NBC

7th Special Forces Group (Airborne)

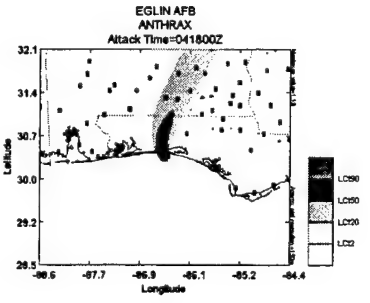
TF 958.1 NBC

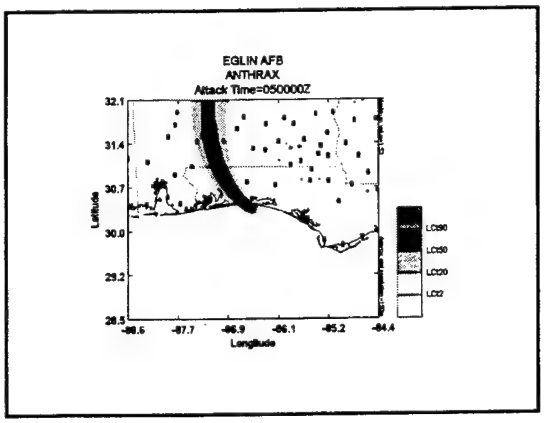
LAST 24 HOURS:

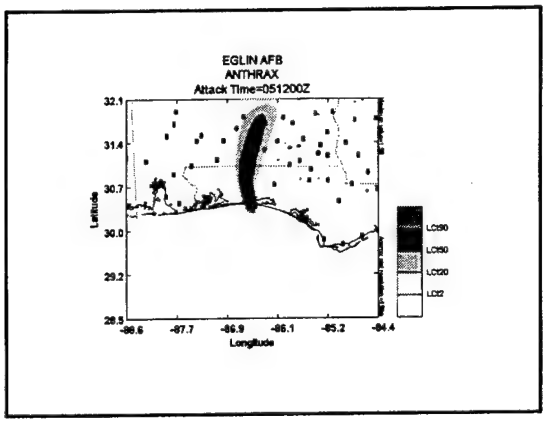
- Continued to monitor WMD threat w/S2.
- Assisted with the synchronization of RGR and 201 Missions

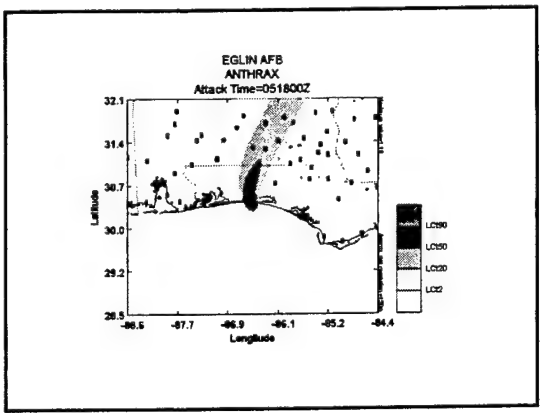
NEXT 24 HOURS

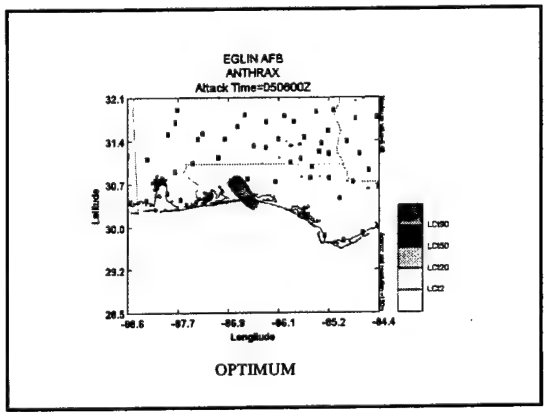
- Monitor WMD threat w/S2.
- Assist with the mission synchronization











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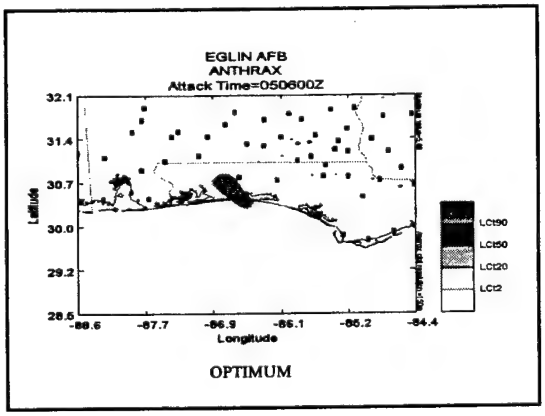

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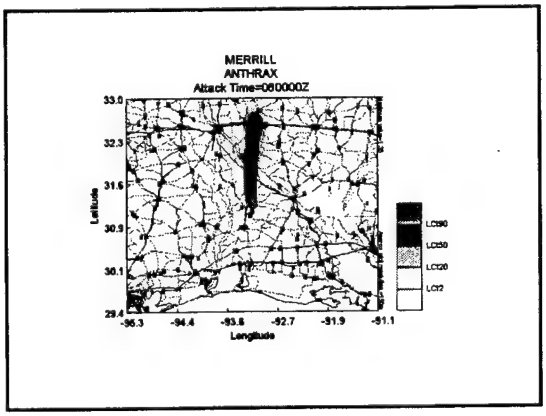

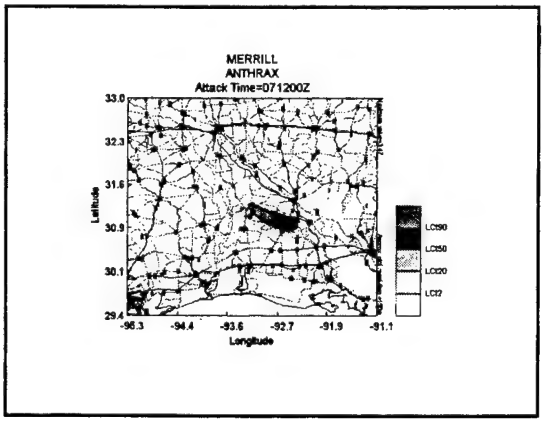

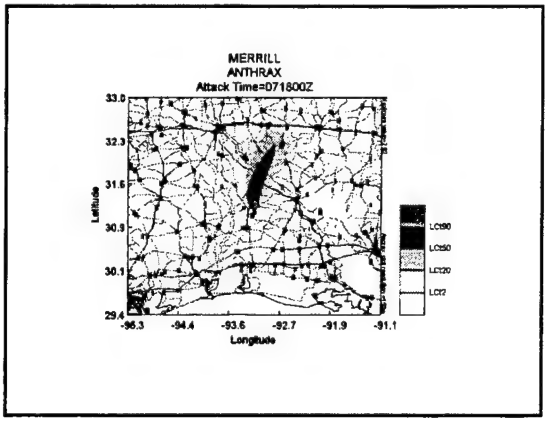

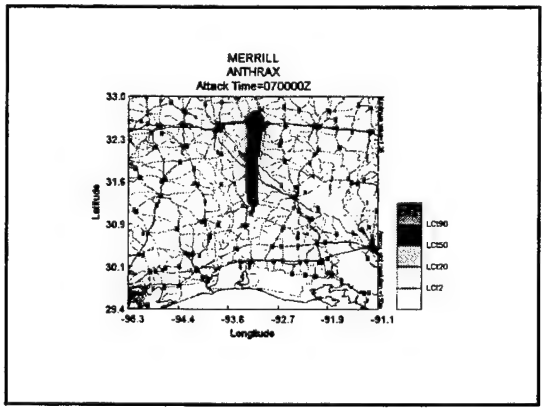

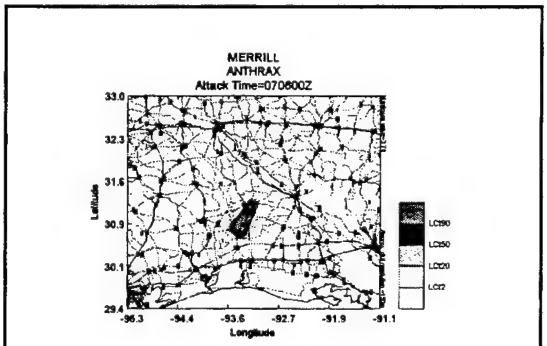

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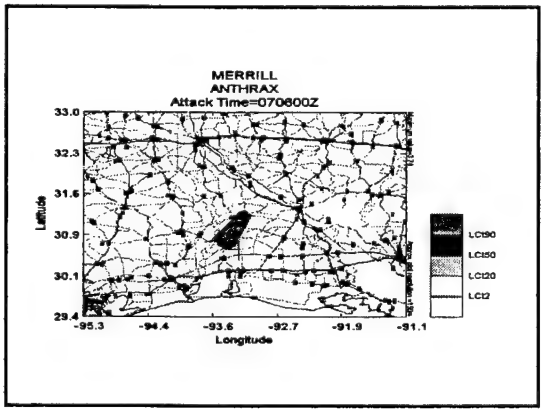


TF 958.1

ENG

7th Special Forces Group (Airborne)

TF 958.1

CIVIL AFFAIRS

7th Special Forces Group (Airborne)

CTG 958.1 CIVIL AFFAIRS

LAST 24 HOURS:

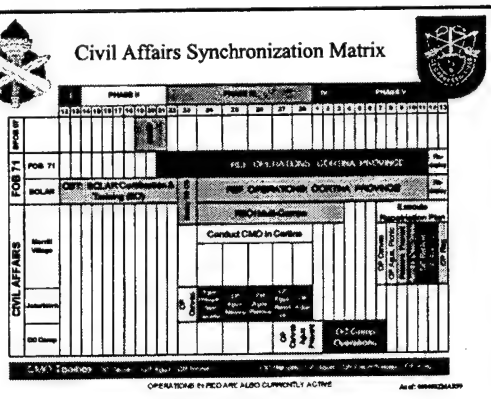
- Continued Internally Displaced Persons (IDP) operations at TAA Wilderness
- Continued planning for Merrill Repatriation
- Coordinated with World Endeavor for Convoy Support, 050900LMAR99

CTG 958.1 CIVIL AFFAIRS

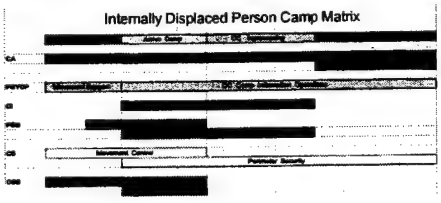
NEXT 24 HOURS:

- Continue coordination for IDP operations
- Refine IDP synch matrix
- Continue detailed planning for Merrill Village IDP repatriation
- Camp IDP PERSTAT: as of 050400ZMAR99: 52//33 Males 19 Females//2 Families
- Conduct Convoy Support WE

Civil Affairs Synchronization Matrix



Internally Displaced Person Camp Matrix



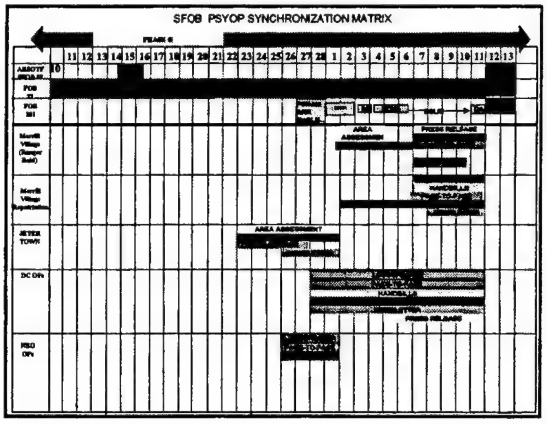
TF 958.1

PSYOP

7th Special Forces Group (Airborne)

TF 958.1 PSYOP

- Last 24 Hours
  - Planning for Merrill Village
    - Detachment conducts mission planning
    - Detachment submitted loudspeaker scripts for approval
    - Researched FM radio possibilities
  - DC operations support
    - Two teams rotating coverage at IDP camp
    - Third team conducting train up and briefing for Operation.
- Next 24 Hours
  - DC operations support



TF 958.1

SIGCEN DIRECTOR

7th Special Forces Group (Airborne)

TF 958.1 SIGCEN DIRECTOR

LAST 24 HOURS:

- **Monitored FOB 201 infiltration**
- **Coordinated for rehearsal and communications check times with Operation Marauder**
- **Refined SOI and Execution checklist**
- **Escorted COL Kinder (USASOC DCSIM)**

TF 958.1 SIGCEN DIRECTOR

NEXT 24 HOURS:

- **Conduct rehearsals and communications check with TF Ranger and TF Adams 1800Z**
- **Conduct 1000 hrs VTC**
- **Conduct 1900 hrs VTC with TF Ranger commander**
- **Continue to refine any changes to Execution checklist / JCEOI**
- **Continue to monitor information flow and systems between all TF 958.1 elements**

TF 958.1 SIGCEN SYSTEMS

OPERATION MARAUDER

UNIT	STATUS	TYPE OF NET
JSOTF		Monitoring SAT A only, NCS JSOAC Net
ARSOTF		SAT A , B, C and D / HF VOICE
FOB71		FOB 71 CMD Net, SAT A, C, and D
FOB201		FOB 201 CMD Net, SAT D

6 SATCOM Channels

- **SAT A—(WB voice)(ARSOTF C2 net)**
- **SAT B—(NB voice)**
- **SAT C—(WB voice w/ Aircraft)**
- **SAT D—(NB data CDC&PDC)**
- **FOB 71 CMD NET—(WB voice)**
- **FOB 201 CMD NET—(WB voice)**

TF 958.1 SIGCEN
CONNECTIVITY MATRIX

PRIORITY		MEANS \ LOCATION	JSOTF	ARSOTF	FOB71	FOB201
(P)	1	TACTICAL / DSN				
(A)	2	AUTODIN				
(C)	3	SIPRNET LAN CONNECTIVITY				N/A
(E)	4	JWICS			N/A	N/A
	5	NIPRNET CONNECTIVITY				
	6	SECURE/NONSECURE FAX			N/A	N/A
	7	VTC				
	8	SECURE PROCOMM				N/A
	9	RAS ASOC	N/A			
		SINGLE CHANNEL COMMS				
	1	- ARSOTF CMD NETS (SAT/HF)			N/A	N/A
	2	- JSOTF CMD NET SAT				N/A
	3	- FOB71 CMD NET (SAT/HF)	N/A		N/A	
	4	- FOB201 CMD NET (SAT/HF)	N/A			N/A
	5	- ARSOTF INTEL NET (SAT)	N/A			
	1	COMMERCIAL LINES			N/A	N/A
	2	CNN				

TF 958.1 SIGCEN

WEBPAGE COUNT	**3750**
PHONE CALLS (completed) (8 Hr period)	**620**
OUTGOING TRAFFIC	**274**
INCOMING TRAFFIC	**824**
E-mail traffic (incoming/outgoing)	**3.9GB**

TF 958.1

SUPCEN DIRECTOR

7th Special Forces Group (Airborne)

TF 958.1 SUPCEN DIRECTOR

- LAST 24 HOURS:
  - TRACKED RANGER AND FOB 201 MISSIONS
  - SUPPORTED BG PARKER'S VISIT
  - COORDINATED REDEPLOYMENT
- NEXT 24 HOURS:
  - CONTINUE TRACKING RANGER AND FOB 201 MISSIONS
  - BG PARKER DEPARTS
  - SUPPORTING BG SCALES' VISIT

TF 958.1 SUPCEN DIRECTOR

- NEXT 48-72 HOURS:
  - STAFF THE REDEPLOYMENT ORDER (FINAL DRAFT)
  - ADVANCE PARTY FOR LTG TAGNEY DEPARTS TO FT POLK

TF 958.1

S1

7th Special Forces Group (Airborne)

TF 958.1 PERSTAT

UNIT	OFF	WO	ENL	CIV	WIA	KIA	MIA	NBL	TOTAL
SFOB 07	28	4	142 (4)	6					180 (4)
FOB 71	49 (9)	21	356 (13)	6 (1)	1				432 (23)
FOB 201	29	10	188 (1)	4					231 (1)
TOTAL	106 (9)	35	686 (18)	16 (1)	1				843 (28)

BLUE = GAIN
RED = LOSS
GREEN = CORRECTION

SFOB 07 PERSTAT

UNIT	OFF	WO	ENL	CIV	WIA	KIA	MIA	TOTAL
7TH SFGA	20	4	97 (4)	6				127 (4)
112TH SIG	2	0	26	0				28
528TH SOSB	0	0	10	0				10
96TH CA	1	0	0	0				1
478TH CA	2	0	1	0				3
TF 958.1.1 LNO	0	0	1	0				1
TF 958.1.2 LNO	0	0	1	0				1
PSYOP	1	0	1	0				2
ASST 1	1	0	2	0				3
TM RANGER	1	0	1	0				2
TOTAL	28	4	142 (4)	6				180 (4)

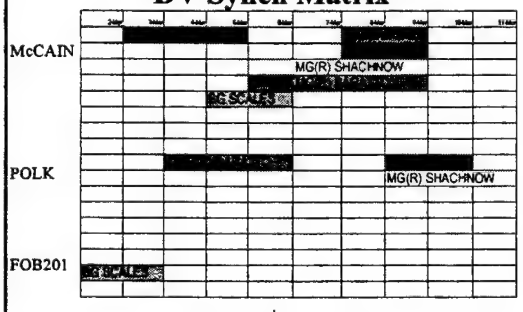
S-1

- Last 24 hours
  - PERSTAT monitoring w/FOB 71& 201
  - DV Planning (LTG Tangney)
  - Corrected Ranger Team Reporting Status
  - Initiated DV Operations
- Next 24 hours
  - PERSTAT monitoring w/FOBs 71 & 201
  - Monitor Casualty Reports
  - Sustain DV Operations

Distinguished Visitors

• COL Angelacci		01 MAR
• MG(R) Shachnow	(Blanding)	03-05 MAR
–	(McCain)	06-09 MAR
–	(Polk)	09-10 MAR
• BG Parker, SOCSOUTH		03-05 MAR
• BG Scales, DCG SF CMD		05-06 MAR
• COL Florer, SOCACOM		05-06 MAR
• MG(R) Baratto		07-09 MAR
• LTG Tangney, CG, USASOC		08-09 MAR

DV Synch Matrix



PAO

- Last 24 Hours:
  - Conducted IDP media visit
  - Prepared two IDP camp articles
  - Unannounced media visit
  - Photographed CASEVAC training
- Next 24 Hours:
  - Finalize media support plan
  - Prepare articles about IDP camp and AOF-T
  - Prepare AARs for two media events

TF 958.1

S4

7th Special Forces Group (Airborne)

LOGISTICS STATUS

CLASSES	SFOB 07	FOB 71	FOB 201	DOS/STS SFOB 07	DOS/ST FOB 71	DOS/ST FOB 201
I				22/8.9	18/15.6	23/3.5
II				22/8	18/14.3	23/3.2
III				22/5300GAL	18/3,422GAL	23/1840GAL
IV				22/18.8	18/32.9	23/8.9
V				30/94	18/120.8	30/33
VI				22/7.1	18/12.3	23/2.6
VII				22/33	18/57.9	23/12.4
VIII				22/2.7	18/5.2	23/.92
IX				22/5.6	18/7.5	23/2
SERVICES					18/GREGG	

LEGEND:

GREEN=100 PERCENT OF DAYS OF SUPPLY

AMBER=50 PERCENT DAYS OF SUPPLY ON HAND

RED=25 PERCENT DAYS OF SUPPLY ON HAND

LOGISTICS CRITICAL ITEMS

NOMENCLATURE	AUTH	O/H	FMC	NMC	STATUS
Rifle Carbine: M4	475	475	475	0	
Launcher 40mm M203	9	9	9	0	
M249 SAW	9	9	9	0	
Night V AN/PVS-7b	43	43	43	0	
Rifle M24 Sniper	6	6	6	0	
7.6 Prk Lift	2	2	2	0	
UH-60	6	6	6	0	
CAR 15	70	70	70	0	
MG 7.62	21	21	21	0	
MG 50CAL M2	8	8	8	0	
Launcher MK19	6	6	6	0	
Mortar 81mm/60mm	10	10	10	0	
Recoiless Rifle, 90mm	2	2	2	0	
100KW Generator	1	1	1	0	
MH-47E	1	1	1	0	

LOGISTICS CRITICAL ITEMS CONTINUED

NOMENCLATURE	AUTH	O/H	FMC	NMC	STATUS
TRK COD FMTV	13	13	13	0	
TRK HMMT: M978	2	2	1	0	1 FMC
TRK PRKLFT: ATLAS	1	1	1	0	
TRK SEE FLU 419	2	2	1	0	1 FMC

LOGISTICS CRITICAL COMMO ITEMS

NOMEN	AUTH	O/H	FMC	NMC	STATUS
KY-68 DSVT	27	27	27	0	
KY-90	3	3	3	0	
KG-82	16	16	16	0	
KG-84	4	4	4	0	
KYK-13	36	36	36	0	
KY-99	16	16	16	0	
KOI-18	27	27	27	0	
KY-57	30	30	30	0	
KYX-15	18	18	18	0	
STU-III	21	21	21	0	
KL-43	17	17	17	0	
AN/PRC-127	18	18	17	1	PROGRAM
RT-1523SINCG	4	4	4	0	
AN/PRC-137	7	7	6	1	FILL
MOTOROLA	35	35	34	1	PARTS

SFOB 07

VEHICLE MAINTENANCE RESPONSIBILITY

MODEL #	BUMPER #	SECTION
M998 FLA	GSC 8	MEDICAL
M997 FLA	GSC 9	MEDICAL
M1081 SHELTER TRUCK	GSC 22	EMS
M1084 FMTV	GSC 73	MOTORPOOL
10K FORKLIFT	GSC 75	MOTORPOOL
M109A2	GSC 16	MI
M998	HHC 3	GUARDHOUSE
M998	HHC 4	GUARDHOUSE
M998	HHC 6	GUARDHOUSE
M1038	HQ 6	COL'S DRIVER/CPT SWINDELL
M998	HQ 4 SFG	MOTORPOOL
M998	HQ 5 SFG	MOTORPOOL
M998	SPT 106	MOTORPOOL
M998	SPT 301	MOTORPOOL
21/2 TON TRUCK	HQ 7 SFG	MOTORPOOL
21/2 TON TRUCK	HQ 2 SFG	MOTORPOOL

NOTE:

* Rental vehicle maintenance as per SUPCEN Memo dated 18 Feb 99

SFOB 07
EXERCISE BUDGET

ITEM	BEGINNING BALANCE	EXPENDITURE TO DATE	BALANCE	DAYS REMAINING	% SPENT	REMARKS
SUPPLY	$177,200.00	$117,140.00	$60,060.00	10	66.1	N/C
TRANS.	$22,000.00	$11,950.00	$10,050.00	10	54.3	N/C
MISC.	$152,050.00	$118,597.00	$33,447.00	10	77.9	N/C
PERDIEM	$149,160.00	$114,940.00	$34,220.00	10	77	N/C
TOTAL	$500.410.00	$362,627.00	$137.777.00	10	72.4	N/C

FOB 71
EXERCISE BUDGET

ITEM	BEGINNING BALANCE	EXPENDITURE TO DATE	BALANCE	DAYS REMAINING	% SPENT	REMARKS
SUPPLY	$82,500.00	$24,092.00	$58,407.89	10	29	Up from 27%
BOLAR.	$87,060.00	$70,426.00	$16,634.00	10	80.8	N/C
MISC.	$52,250.00	$34,750.00	$17,500.00	10	66.5	N/C
PERDIEM	$50,123.00	$36,718.00	$13,405.00	10	73.2	N/C
TOTAL	$271.933.00	$165,986.00	$105.946.00	10	61	Up from 60%

FOB 201
EXERCISE BUDGET

ITEM	BEGINNING BALANCE	EXPENDITURE TO DATE	BALANCE	DAYS REMAINING	% SPENT	REMARKS
SUPPLY	$37,000.00	$30,575.00	$6,425.00	6	83	Up from 74%
TRANS	$2,600.00	$2,074.00	$526.00	6	80	N/C
MISC.	$43,077.00	$43,077.00	$0.00	6	100	N/C
PERDIEM	$21,000.00	$21,000.00	$0.00	6	100	N/C
TOTAL	$103.700.00	$96,726.00	6,974.00	6	93	Up from 90%

LOG SIGACTS

- LOGISTICS REPORT — SUBMITTED
- BALANCE EXERCISE BUDGET — ON GOING
- TRACK LOGISTICS OPERATIONS — ON GOING
- WORK INSTALLATION SUPPORT — ON-GOING
- COORDINATE AMENDMENTS FOR AIR TRAVEL — ON-GOING

TF 958.1

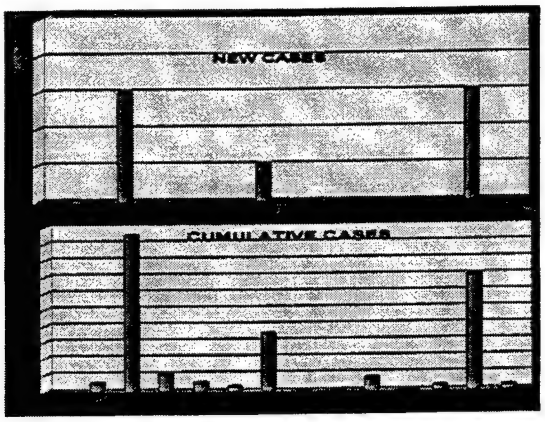
MEDICAL

7th Special Forces Group (Airborne)

TF 958.1 MEDICAL

LAST 24 HOURS:

- Coordination with FOB 201
- Refining MASCAL Internal SOP
- PMCS Bio-Medical Equipment



TF 958.1 MEDICAL

NEXT 24 HOURS:

- Medical Equipment Sets
- Sick Call

TF 958.1

JAG

7th Special Forces Group (Airborne)

TF 958.1 JAG

LAST 24 HOURS:

- MISSION COORDINATION
  - COORDINATION WITH TF 958 JAG
  - COORDINATION WITH FOB 71
  - COORDINATION WITH FOB 201

7th Special Forces Group (Airborne)

TF 958.1 JAG

NEXT 24 HOURS:

- Coordinate with TF 958 JAG
- Coordinate with FOB 71 JAG
- Coordinate with FOB 201 JAG
- Claims Investigation

7th Special Forces Group (Airborne)

TF 958.1

CHAPLAIN

7th Special Forces Group (Airborne)

TF 958.1

HQs COMMANDANT

7th Special Forces Group (Airborne)

TF 958.1 HQs COMMANDANT

LAST 24 HOURS:

- Prepared VIP room for BG Scales
- Cleared Ranger billets
- Supported SIGCEN and SUPCEN with purchasing agent
- Restocked Class VI Store
- Began construction on the VIP Entrance Roof (VIPER)

TF 958.1 HQs COMMANDANT

NEXT 24 HOURS:

- Escort BG Scales
- Ensure DV House is prepared for BG Scales
- Conduct vehicle maintenance
- Procure additional VIPER material

TF 958.1

CSM COMMENTS

7th Special Forces Group (Airborne)

TF 958.1

CDR's GUIDANCE

7th Special Forces Group (Airborne)

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